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ORIGINAL ARTICLES.

NASAL BACTERIA IN HEALTH.

Read in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

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The position which microörganisms will ultimately take in their relation to the morbid processes of disease has not been determined as yet. Indeed, we seem now only at the beginning of an unknown region in which, possibly, lies hidden the mystery of the etiology of many pathological changes. Encouragement in the region of preventive medicine, under which head we must include all that Listerism has done for surgery, lends zest to the attempts to follow the microbe into the human organism and there annihilate. The almost complete failure thus far has given professional cynics an opportunity for a somewhat galling criticism. These failures are, no doubt, in a large measure due to our as yet very incomplete knowledge of the varying conditions and influences which complicate the relations of microbes to the human organism. Whatever opinion the clinician may have of the part played by them in the etiology of the diseases he observes, even the most skeptical must admit that the burden of disproof must have been thrown upon the doubters.

With the increased probability that many pulmonary and nasal diseases owe their origin, in a large degree, to microörganisms, it becomes important that the bacterial contents of the respiratory tract, in a state of health, should be known. Before we are in a position to investigate a pathological process, we must have a firm physiological basis on which to stand. Before we seek for a pathogenic microörganism in disease we should know what exists in the situation in a condition of health. The *ingress* of all infective agents must, in the vast majority of cases, be through the nose or the mouth; those of the respiratory tract, as a rule, through the former; those of the alimentary tract, as a rule, through the latter. The bacterial contents of the mouth, in health, have been so thoroughly investigated by Biondi,[1] Vignal,[2] Netter,[3] Fraenkel[4] and others, that further researches would seem superfluous when our knowledge of the nasal microörganisms in health is so slight. As laryngologists we are becoming more and more impressed with the necessity of normal nasal respiration and the harm of mouth breathing. In the further advance of nasal bacteriology we may find another reason to urge the importance of purely nasal respiration. When we remember the apparatus of Hesse[5] for air analysis, the configuration of the internal nose would seem admirably adapted to arrest the progress of microbes carried into it by the air current; and still further, it has been conclusively proved that bacteria never rise from a damp surface, however strong the blast may be over it, unless carried along by some particle of water, or mucus, or solid matter. Hence we should expect to find innumerable varieties of bacterial forms derived from the air, and might well despair of reaching any definite conclusions in the matter. Besides the bacteria of phthisis and pneumonia and the microbe of diphtheria, whether it be the bacillus of Löffler or the streptococcus of Prudden, there seems good evidence that some purely intra-nasal diseases depend upon microörganisms for their origin or their subsequent course. A perusal of the researches of Löwenberg,[6] Klammann,[7] Thost,[8] Seifert,[9] Strauch,[10] Valentin,[11] Hajek,[12] Reimann,[13] and others into the etiology of ozæna and coryza must convince us of the truth of what Walb[14] says of ozæna. "I am convinced," he says, "that the way opened by Löwenberg will lead to the discovery of the nature of ozæna. Whether the Löwenberg coccus or some other is the cause of ozæna is of no consequence; it must exist and it is to be hoped that it will be found."

Whether there is a bacterial connection between coryza and pneumonia as claimed by Thost[8] and further urged by Cardone,[15] it is impossible, with our present knowledge, to form any opinion. Notwithstanding the abundance of literature to be found on the bacteria of nasal diseases, there is very little, in fact no, systematic examination of the normal nasal secretions for bacteria recorded in the somewhat extended range of literature to which I have had access. However instructive the staining of nasal secretions for bacilli and cocci, as a matter of technique, may be, there is

little or nothing else to be learned from it without the aid of the improved methods of culture tests. I have therefore omitted extended reference to this class of work. The mere presence of microörganisms in nasal secretions was established many years ago. Bernard Fraenkel, in Ziemssen's Encyclopædia, in 1876, in his article on "Acute Coryza," says: "A large number of these little structures recently so much spoken of and called micrococci, may generally be seen also covering the cells." And he refers to Hueter[16] as claiming these bodies to be the source of irritation in coryza. Herzog[17] in 1881 found many bacilli and cocci in normal and abnormal nasal secretions, more abundant in the latter, and especially in fœtid nasal catarrh. Eugen Fraenkel,[18] on the other hand, in 1882, stated that he could find no bacteria in the normal nose, and his work on Ozæna, in the secretions of which he found four kinds of bacteria, has been widely quoted, but in the light of our present bacterial knowledge it possesses on this point only historical interest. Later observations have all been made incidentally in connection with bacterial investigations of disease. Bernard Fraenkel,[19] in 1886, found in the normal pharynx, besides the staphylococci pyogenes aureus and albus, a micrococcus which often appeared as a diplococcus, and did not fluidify gelatine. Probably the same coccus was found in the normal retro-pharynx by Hack,[20] and fully described by his pupil, Strauch.[20] The latter asserts that it is also found in the nose, but less frequently and in fewer numbers. Both Löwenberg[6] and Hajek[12] failed to find microörganisms at all constant or abundant in normal nasal secretions. Reimann,[13] on the other hand, described two forms as nearly always found; one a plump round ended bacillus, and the other a little coccus which occurred usually in pairs but often in longer chains. Considering the extensive and very thorough work done upon the bacterial contents of the mouth in health, it is singular that there should be such a lack of it in the nose.*

My own observations were made during the last two years in the laboratory of the Alumni Association of the College of Physicians and Surgeons, under the direction of Dr. T. M. Prudden, to whose kindness and careful oversight the little which may be of value in them is due. The material was drawn from the Dispensary of the Roosevelt Hospital. Although a number of other cases were examined, it is my purpose to record here only those investigations made in fairly normal cases, leaving the examinations in the other cases for further amplification and another occasion. The method of work was as follows: Portions of the nasal secretion were removed from the mucous membrane covering the turbinated bones and adjacent portions of the septum, in the loop of a long platinum needle previously sterilized in the flame. This was immediately plunged into two gelatine tubes and streak cultures were made upon two agar-agar plates. Thus four inoculations were made from different portions of the nasal chambers in each case. Besides this a number of dry cover-glass preparations were made of the nasal secretion in each case, and stained by Gram's method and by simple double staining. These last frequently showed no bacteria when the culture-tests proved their presence in great abundance. The gelatine tubes were plated according to Koch's method, and pure cultures obtained and transferred to culture media tubes of agar-agar, 5 per cent. glycerine-agar, gelatine, bouillon, milk and potatoes. The same was done with pure cultures obtained from the streak cultures on the agar-plates. The growth characteristics were noted and compared with description in the works of Flügge, Fraenkel, Eisenberg, and others, and where close correspondence was observed their denominations were accepted. Those forms found not to correspond to any description were, as a rule, carefully worked out and the records preserved, but it is unnecessary to describe them here, as they were only found in isolated cases. All the usual precautions were taken against contaminations, and, in addition, only those colonies selected from the plates which were in sufficient numbers to preclude the possibility of contamination and to eliminate, as far as possible, those microbes which had only recently become nasal inhabitants and had not yet grown in the nasal secretions to any considerable numbers. When one remembers the multitude of air bacteria which would naturally lodge against the nasal mucous membrane, and be only accidentally visitors to a soil unsuited to them, this precaution will not seem uncalled for. In all cases care was taken to ascertain that no nasal douches of any kind had been previously used. Any one, even those unfamiliar with the technique of bacterial analysis, will appreciate the amount or work required where so many different forms had to be carefully worked out; and that may be pleaded as an excuse for the limited number of cases brought forward. In the ten cases mentioned the condition of the mucous membrane was as nearly normal as possible, and even where insignificant changes were observed they are noted. The class of cases were not as diversified as could be desirable, as they were all dispensary patients. I made several bacterial analyses of the air of the Dispensary from time to time by Petri's and Sedgwick's methods, and by exposure of agar plates. At no time was there any growth but those of

* At the last meeting of the Russian Congress in St. Petersburg, Besser reported having examined the nasal secretions of 81 patients, the bronchial secretions of 10, and the secretions of the frontal sinuses in 5. Out of the nasal and bronchial secretions he cultivated the Fraenkel-Weichselbaum diplococcus of pneumonia in 14 cases, the staphylococcus pyogenes aureus in 14 cases, and the streptococcus pyogenes in 7 cases. Unfortunately, I have not been able to procure the original article and the reference in the *Centralblatt für Bacteriologie*, Bd. V, No. 21, is incomplete, not giving the conditions under which they are found.

simple air bacteria noted. The nasal bacterial forms were found to vary markedly with the state of the weather and of the streets. High winds and dry and dusty streets were sure to fill the noses with air bacteria. In rainy weather, or after several days of calm, or when snow was on the ground, aerial forms were much more rare. It seems to me there can be only one cause for this, viz.: They tend to disappear because they have found a soil unfitted for their growth, and, according to the universal law of natural selection, give way to microbial forms more favored by the conditions. It certainly is not because they flow away in the secretions, because it is not only their absolute frequency which varies, but their frequency relative to other forms. The reaction of the secretion of the normal nose was found to be neutral or slightly alkaline.

Case 1.—Young man in fair health with exception of slight cough. No pulmonary lesion; slight hypertrophy of one turbinated bone; nose otherwise normal. A short plump bacillus, looking at times like a diplococcus; slow white growth on gelatine, which it does not fluidify. Same on agar, spreading slightly on surface.

Case 2.—Young girl with slight tonsillar enlargement; nose normal; general health good. Bacterial analyses were made on three separate occasions, and twice was found a nearly pure culture of the staphylococcus pyogenes aureus. The tonsils were examined and the same growth found there. Inoculations of pure bouillon cultures in the jugular of rabbits set up purulent pericarditis and endocarditis, of which the animals died. The pus swarmed with the cocci.

Case 3.—Boy of 17, who had a perforation of the septum and hard palate from a syphilitic process. All ulceration had long healed and the mucous membrane was normal in appearance. The staphylococcus pyogenes aureus was found in large numbers, and a moderate growth corresponding to the bacillus lactis aerogenes.

Case 4.—Man of 35. A few weeks previously had been discharged from Roosevelt Hospital after a severe operation for the removal of a thyroid tumor. The wound had healed by first intention. Left laryngeal paralysis resulted. The nose was perfectly normal in every way. The staphylococcus pyogenes aureus and albus were both found and abscesses caused by the injections of pure bouillon cultures of each beneath the skin of rabbits. From these abscesses new cultures of the same growths were obtained in each case.

Case 5.—Child 10 years old. No subjective nasal symptoms, but the mucous membrane of the nose is slightly hyperæmic. In this case also both the staphylococcus aureus and albus were found, and positive results obtained from animal inoculations.

Case 6.—A seamstress aged 16. She had had considerable post-nasal catarrh but no purulent secretion. Nose normal and health good. Two examinations six weeks apart were made. Each time in the nares was found abundant growth of the ordinary mould, the pencellum glaucum. Each time pure cultures were obtained from the post-nasal space of the streptococcus pyogenes. A pure bouillon culture was injected beneath the skin of rabbits' ears and an erysipelatous inflammation produced, from the sanious pus of which cover glass preparations were made showing abundant cocci in chains. At the second examination a culture of a gas-producing bacillus was also made from the tonsils. The most careful questioning could elicit no history of exposure to contagion of any kind. She herself was in the best of health except the discomfort from her post-nasal catarrh.

Case 7.—Girl, aged 16; cigarette maker. There was slight hypertrophy of the nasal mucous membrane and some tonsillar injection. The staphylococcus pyogenes citreus was found in the nose.

Case 8.—Child, aged 4. Slight post-nasal catarrh and slightly enlarged tonsils. Nose normal. In it was found the micrococcus flavus desidens.

Case 9.—Man, aged 19, with follicular tonsillitis and post-nasal catarrh. This case presented considerable structural change, and I insert the record here because, in spite of the large amount of secretion present, only aerial forms were found. They were the micrococcus flavus desidens and micrococcus cereus flavus, and an undetermined coccus with a curious growth on agar and gelatine, a description of which would be out of place here.

Case 10.—Woman, aged 20, with slight attack of laryngitis. She was recovering from coryza, and there was some mucus secretion in the nose. The bacterial contents were as follows:

1. Staphylococcus pyogenes aureus.
2. Micrococcus flavus desidens.
3. A tetrad resembling closely the descriptions of the micrococcus tetragenus.
4. An undetermined coccus, with a white non-fluidifying growth on gelatine and agar.

Cases.	Staphylococcus pyogenes, aureus, albus and citreus.	Micrococcus flavus desidens.	Bacillus lactis aeragenes.	Pencellum glaucum.	Micrococcus cereus flavus.	Micrococcus tetragenus.	Different undescribed forms.
1	.	.	.	.	.	.	1
2	1	.	.	.	.	.	.
3	1	.	1	.	.	.	.
4	1	.	.	.	.	.	.
5	1	.	.	.	.	.	.
6	.	.	.	1	.	.	.
7	1	1	.	.	.	.	.
8	.	1	.	.	.	.	.
9	.	.	.	.	1	.	1
10	1	1	.	.	.	1	1
Total, 10	6	3	1	1	1	1	3

The three last cases were examined during windy, dusty weather, and illustrate well, espe-

cially in the last case, the unreliability of cover-glass preparations alone of the nasal secretions in determining bacterial species, as the morphological appearance in four out of the five organisms was the same.

To summarize:

In six cases, the staphylococcus pyogenes.

In three cases, the micrococcus flavus desidens.

In one case, bacillus lactis aerogenes.

In one case, pencellum glaucum.

In one case, micrococcus cereus flavus.

In one case: Micrococcus tetragenus.

Once in each of three cases: Different undescribed forms.

The air forms may be dismissed without further consideration. The micrococcus tetragenus found in only one case and in few numbers, need only receive a passing mention. In Case 6 the only organism in the nasal chambers proper, which was made out by two careful examinations at different periods, was the ordinary mould, the pencillum glaucum. It was in such great numbers that it possibly may have overshadowed the growth of other forms. Considering its great aerial frequency, it is singular that it was not more often found. In this case the streptococcus pyogenes was twice found in the naso-pharynx, which was the seat of a chronic catarrhal inflammation, but which showed few changes in the mucous membrane besides the reddening of the surface and the increased secretion of mucus. For its pathogenic significance in the air-passages the works of Netter,[3-22] Prudden[21] and others may be referred to.

Our attention is therefore directed to the staphylococcus pyogenes; the three varieties, aureus, albus and citreus, need only be considered as one in their pathogenic significance. We know as yet too little concerning the conditions under which this organism exerts its characteristic influence, to draw conclusions. It may be well, however, to refer to the statements of a few of the various workers in this field.

Ullmann[25] found the staphylococcus in the air in different situations and under varying conditions, as well as in the water of the river Spree. He and others found it in the earth, on the streets and on the walls of various rooms and buildings. As to man, he says, "Fürbinger found it in the dirt under finger-nails, and Bumm in the folds of the nipples. Biondi obtained cultures of it from the saliva, and Fraenkel from the tonsils. I have found it not only on the buccal mucous membrane, in the saliva, the tonsils, the pharynx and vagina of healthy people and of animals, but in the œsophagus, intestinal tract and bladders of recently killed animals. Lustgarten and Mannaberg found it constantly in the urethra. These investigations show that the staphylococcus is very widely distributed, and that it is found wherever living beings are."

From this we see that its very frequent occurrence in the nose forms no exception to the rule. It will require investigation of many more cases than those here cited to prove that it is the most frequent and abundant microörganism in the nasal chambers. Netter,[22] in speaking of the influence of pathogenic microörganisms in the mouth, nose and ears, says: "The presence of the microbes is not enough. It is necessary that they should be present in sufficient quantity to triumph over the resistance which healthy anatomical structures offer them. It is necessary that their virulence should be sufficiently great, and we know that their virulence is not always the same."

He might have also said that the resistance offered them is not always the same. On this head the work of Bujwid[24] is suggestive. He found that in round numbers a billion staphylococci aurei for a rabbit, a hundred million to a billion for a rat, and a hundred million for a mouse, could be injected beneath the skin of a healthy animal without result, no abscess forming.* When, however, grape sugar had previously been introduced into the animals' system they succumbed. Ribbert[25] and his pupils, Fleck[26] and Laehr[27], caused a catarrhal inflammation of the bronchi, with more or less a broncho-pneumonia, by injection of pure cultures of the staphylococcus into the trachea. Their investigations, as well as those of Wyssokowitsch,[29] tend to show that the lungs or the adjacent bronchial lymphatic glands, act as a sort of filter or as a place of destruction for the microbe, preventing their further penetration into the human organism.

Prudden[21] repeated the experiments of Fleck and Laehr with like results; he also succeeded in causing broncho-pneumonia by injections of pure cultures of the streptococcus diphtheriæ and by injections of ammonia.

Lübbert[28] caused fibrino-purulent tracheitis and bronchitis by injections of a pure culture of the staphylococcus into the trachea. It is asserted by many investigators, and their assertions are based upon extensive experiments, that it is the pavement epithelium which prevents the entrance of the various microbes into the subjacent structures and thence into the general system. The very general experience of laryngologists would hardly bear this out as regards the staphylococcus, since tonsils and uvulæ are cut without fear of septic invasion, and in all the operations upon the mucous membranes of the mouth and nose this is the least danger we fear. If, however, a patient bites the operator's finger so as to break the skin, unless the wound is thoroughly washed out with an antiseptic, local suppuration often

* Since this paper was written, the very valuable papers of Buchner (Centralbl. f. Bact., iv, 25, and v, 1), and Nissen (Zeitsch. f. Hygiene, vi, 3), have come under my observation. They give convincing proof that it is the albumin in the blood plasma that exercises the destructive influence on bacteria in the circulation.

follows, and occasionally, from this, general sepsis.

I have mentioned the above facts and observations in order to show how little we as yet know and how vastly much more we have to learn about this comparatively well-known microbe so often found in the upper-air tract of healthy people. Before closing this already too extended contribution, I wish to make mention of some investigations, as yet very incomplete, which I have been engaged upon during the last two months, more in the hope that others with more leisure and better opportunities will continue them, than from an expectation of adding much to our knowledge. I refer to the nasal chambers as a bacterial filter of the air passing through them.

It has been definitely proven by the investigations of Grehant,[30] Paulsen,[31] Aschenbrandt[32] and Bloch[33] that the nasal chambers are not only warmers and moisteners of the inspired air, but act also as a filter for fine dust particles. The latter observer experimented with many substances in fine powder, and came to the following conclusion, as did Grehant and Aschenbrandt: "A certain part of all kinds of dust, even the finest, is held back; the larger part of the formed substances which float in the air do not reach the entrance of the larynx, or even the choanæ, but it is impossible for the nose, even with the help of the naso-pharynx, to *completely* free the air even from the coarser kinds of dust."

Now a bacterium, whatever its relative proportions to other divisions of matter with which we are familiar, is a ponderable substance, heavier than air, water or any of the animal fluid secretions. It is therefore subject to the same physical laws. It is yet an unsolved mystery how the bacillus tuberculosis reaches the most frequently chosen seat of its selective action in the apices of the lungs and how the pneumococcus usually reaches the lower lobes before we have lobar pneumonia. To a bacteriologist it is almost inconceivable how a microbe entering the anterior nasal meatus with the tidal air should go through the tortuous, moist passage of the nose, past the broad surface of the palate and the post-pharyngeal wall into the larynx, between the false and true vocal cords, down the long tubes of the trachea and bronchi, and finally find a lodging place on the walls of the bronchioles and air-cells. The chances of its being arrested before it reaches them seem almost infinite, especially since the tidal air must stop at a comparatively high point in the respiratory channel in inspiration, and flow upwards again on expiration. Neither does it seem probable that becoming arrested at some higher point it flows downward with bronchial secretions, when we remember the ciliated epithelium and its function. The lymph channels have been strongly urged as an explanation, but, although our knowledge of the pulmonary lymphatics is very limited, there are many objections to this vague theory which will occur to every one. The day for theorizing has gone by. A theory now-a-days should be considered as little better than confession of ignorance. However small and insignificant an addition to our knowledge, the ascertaining of the capacity of the nose as a place of arrest for microbes may be, it seemed so easy of demonstration that I have attempted it. The technical difficulties were many, but have been fairly overcome, though it needs a much more extended and varied research than I have yet made to draw conclusions. The task is easily stated: Ascertain the bacterial contents of the air before and after it has passed through the nose. Glass tubing of a calibre of ⅛ to ¼ of an inch in diameter and 6 inches long was filled with granulated sugar for 3½ inches of its length, held in place at the bottom by a piece of rolled copper gauze, tightly fitting the tube, leaving enough space at each end for the insertion of a cotton plug. The sugar grains were of a uniform size of forty to the inch. This part of the apparatus was copied from that of Professor Sedgwick and G. R. Tucker, of Boston, to whom I am greatly obliged for a description of their method of air analysis, kindly sent to the College Laboratory some time before it was communicated to the Society of Arts, in whose proceedings for 1887–1888 it may be found. Their rules for sterilization of the sugar and the apparatus were also followed. For reasons which I need not stop to explain here it was found best to vary their procedure considerably and adopt, to some extent, the method of Petri,[34] with sand. After proper sterilization the glass tubing was attached, by means of stiff rubber tubing, to an air-exhaust apparatus. As there was a good head of water in the laboratory a Sprengel's air-pump was principally used, by means of which one litre of air could be drawn through the 3½ inches of sugar in from forty seconds to one minute. Usually, however, a very perfect air-exhausting apparatus may be obtained by making use of the Allen Surgical Pump, of the size used for veterinary purposes, which I show you here, in connection with the air filter. About one hundred revolutions of the handle of this instrument, which can be made in forty-five seconds, or a minute, will exhaust one litre of air. With either contrivance it is perfectly easy to ascertain the rate at which air will pass, by means of a litre-flask inverted in water. It has been proved by Sedgwick, and I have verified the statement, that air passing at about this rate will deposit all its bacterial contents in the sugar.

With this apparatus, then, 10 litres of air are drawn through the filter after the cotton plugs used during sterilization have been withdrawn. Then 10 litres of air at the same time and in the same locality are drawn through the nose and also through the filter. This is accomplished as

follows: The glass tubing with its load of granulated sugar, all thoroughly sterilized, is enclosed by means of a perforated rubber cork in a larger piece of glass tubing and the space between the two loosely packed with absorbent cotton. The end of the smaller tube does not reach to the end of the larger. The filter thus protected from the bucal secretions is put in the mouth and the lips closed firmly around the outside tubing. If held in a horizontal position in the mouth nothing but air can enter the filter when the suction is begun. During alternate periods of fifteen seconds each the person is directed to hold his breath, making the thoracic walls rigid. Thus practically all the air drawn through the filter must have first passed through the nasal chambers and the post-nasal space. During the fifteen seconds of respiration the air-current is shut off by compressing the rubber tube between the filter and the suction apparatus, consequently the time consumed in the examination of the nasal air is twice that consumed in the control examination. The plan adopted by Aschenbrandt and others of drawing the air up one nostril and down the other before examination, besides other faults, permits the entrance of mucus into the air filter, which it is impossible to protect from contact with the walls of the nasal chambers.

After the 10 litres of air are drawn through in each case the sugar is dampened and partly dissolved with a few drops of carefully sterilized water to facilitate its removal from the glass tubing. By means of a sterilized, stiff brass rod the wire gauze is pushed along the tubing, forcing the wet and partly-dissolved sugar out into shallow glass dishes, where it is thoroughly dissolved and mixed with 10 per cent. nutrient gelatine. The glass tubing is filled with gelatine and stopped at both ends with cotton. The gelatine in the dishes is allowed to solidify slowly, so as to insure the complete dissolving of the sugar. It was found that very few, in many cases no colonies developed in the glass tubing, so completely did the sugar carry along its bacterial contents with it when pushed out. I have described the process hurriedly and omitted descriptions of the routine precautions taken in sterilizing, controlling and guarding against aerial contaminations which belong to the technique of careful bacterial analysis.

The colonies developed after several days in the two sets of dishes were counted and compared. As I said before, too few examinations were made to arrive at hard and fast conclusions. I only experimented on my own nose, and have succeeded only recently in getting results free from errors of technique. Speaking in a general way, the nasal chambers in my own case seem capable of filtering out about three-fourths to four-fifths of the bacterial contents of the air passing at the rate of one litre per minute. The photographs of an examination made during the presence of a considerable quantity of mould in the air, illustrate this fairly well. This particular experiment was photographed because the white moulds show the difference in a more striking manner than bacterial colonies, but the same proportion seems to hold good with them, as for instance, in an examination made April 25th of this year:

Ten litres of laboratory air contained 4 moulds and 125 bacteria.

Ten litres of laboratory air after passing through nose contained 1 mould and 24 bacteria.

Of course noses must differ in this respect as in other ways, and the rapidity of the current we know makes a difference in the number of both moulds and bacteria deposited in Hesse's apparatus. Counting 500 cc. as the tidal air with each inspiration, we have about nine litres per minute passing through the nasal chambers in normal respiration. In the experiments just mentioned the rate was only a little over one litre per minute. In spite then of the apparently well-adapted arrangement of the nasal chambers for a bacterial filter, even at this rate, a really large number of bacterial forms are carried at least into the larynx. It is to be hoped that further and more complete and reliable investigatious will confirm or refute this somewhat premature assertion. Unless we throw aside the very numerous and careful observations made by bacteriologists in pulmonary diseases as useless, it is surely of the greatest importance that we should know something of the mode of ingress of microbes into the deeper pulmonary tracts.

DR. JOHN MCKENZIE, of Baltimore, thought the solution of many points in nasal pathology by bacterial investigation would not be an event of the immediate future. The problem is an intricate one, especially in view of the constantly changing environment of the individual. The dependence of ozena on micrococci has not been determined.

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THE IMPORTANCE AND ESSENTIAL NEEDS OF LOCAL BOARDS OF HEALTH.

Read in the Section of State Medicine, at the Fortieth Annual Meeting of the American Medical Association, June 25, 1889.

BY WILLIAM C. RIVES, M.D.,

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Although much has been said and written upon the subject of local health organizations, the indifference which is still widely prevalent in our country, outside of the large cities, in regard to the necessity for the formation and proper administration of such bodies, and the great intrinsic importance of the question itself, furnish some reasons for additional remarks.

The protection and preservation of health through measures taken against those dangers which threaten it from preventable causes is a subject which not only concerns sanitarians but also every member of a community, and as these measures must necessarily depend chiefly upon the local board and its health officer, the value of efficient boards of health cannot be overestimated if the advantages of sanitary measures are to be regarded at all. It is, indeed, unnecessary to remind any intelligent man who has paid the least attention to sanitary science of the importance of local boards of health; yet, while all thoughtful persons appreciate the need of them, there are many communities which are not alive to this necessity, as is evinced by their unwillingness to have a local board, or else by their failure to confer sufficient powers upon it or to contribute their hearty support after it is established.

It is, notwithstanding, a matter settled beyond the possibility of question, no longer admitting of argument, that the proper enforcement of suitable health regulations and due attention to sanitary requirements have achieved most striking results in reducing the general death-rate, and in limiting especially the prevalence of the zymotic diseases and of others whose occurrence is facilitated by local uncleanliness or unsanitary conditions. Through the exertions thus made for the prevention of disease, other advantages have ensued. The aid afforded by the application of sanitary principles in promoting the advancement of Christian morality by improving the condition of the wretched abodes of the poor in the large cities and by the prevention of overcrowding is of incalculable benefit; the saving of expense which has been often estimated in particular instances, is perhaps not too strongly expressed in the language of Mr. Gladstone in one of his addresses: "There is no greater economy than the saving of human life."

It is needless for me to quote from the enormous mass of statistics to show the actual good that has been done by the carrying out of sanitary reforms. These are particularly striking in the case of England, the foremost country in the world in the care that is taken of the public health. The action of suitably constituted health authorities has made London the healthiest large city in the world, reducing the general death-rate, which for a number of years during the eighteenth century is said to have been not less than eighty out of every thousand, to twenty to the thousand, and has also throughout England accomplished analogous results. It has effected wonderful improvements in the British Colonies, where such cities as Bombay, Calcutta and Hong Kong have been freed from the terrible epidemics which formerly were liable to devastate them; and in other countries of Europe, and in our own land, it has accomplished much, although far from what is possible. Owing to the care that is now taken small-pox, yellow fever and Asiatic cholera are greatly restricted and no longer sweep uncontrolled through cities as in former times. In short, some of the greatest achievements of modern science have been in preventive medicine and, owing to the remarkable discoveries of Robert Koch and other bacteriologists, we are on the eve of restricting in some degree that dread disease, pulmonary tuberculosis, by taking precautions formerly considered unnecessary.

In cities, indeed, the advantages of proper sanitary administration are so obvious that they will not be disputed; but neither is it of little importance in smaller places and in rural communities. The intimate relations which exist between town and country at the present day not only render the sanitation of villages and rural districts a matter of importance to themselves, but also may be attended with far reaching consequences to others, which becomes evident when we recollect that most disastrous results may arise from neglect of sanitary precautions in some small village or obscure house. It was the disregard of these in the case of a single isolated dwelling which was the cause of the unfortunate epidemic at Plymouth, Pa. The great epidemic of typhoid fever in the parish of Marylebone, London, in 1873, was traced to a single case at a country farm which supplied milk to a dairy in that parish, directly occasioning no less than 218 cases of the disease, from which a very large number of additional cases originated. Since that time as many as eighty-one epidemics have been traced in various parts of that country to milk distribution.

Speaking generally, the ultimate object of all sanitary endeavor is to prevent the spread of infectious and contagious diseases, and to lessen or

[28] Lübbert, Der Staphylococcus pyogenes aureus und der Osteomyelitis-coccus, Würzburg, 1886.
[29] Wyssokowitsch, Wien. Med. Presse, No. 6, 1889, p. 231.
[30] Grehant, Recherches Physiques sur la Respiration de l'Homme, Paris, 1864.
[31] Paulsen, Separatabdruck aus dem LXXXV, Bd. d. k. Akad. der Wissenchaft, Abth. 3, 1882.
[32] Aschenbrandt, Die Bedeutung der Nase fur die Athmung, Würzburg, 1886.
[33] Bloch, Zeitsch fur Ohrenheilk, Bd. xviii, p. 215.
[34] Petri, Zeilsch fur Hygiene, 1887, iii, S. 1.

remove influences injurious to health by securing the highest degree of cleanliness practicable and by exercising supervision over the air, food and water supply. In addition to this, there is the important matter of the registration of vital statistics. Now, to accomplish all that is needed for the attainment of these objects, the requirements which, in the complex conditions of modern life, are necessary, are so very numerous that they cannot be satisfied by the action of the ordinary local authorities as such, but give ample and varied scope for the work of permanent independent organizations, which should be given all the legal authority and means necessary for the due discharge of their office. While fully recognizing the great value of State Boards of Health in their proper sphere, it is to local boards that we must mainly look for the actual carrying out of the details of sanitary reform and the achievement of the direct and practical results required for the protection of the public health; so that the sanitary work of a State may be said to be, in the main, the sum of the work accomplished by its local boards, and in so far as the State boards succeed in influencing them to perform their duties, they will have fulfilled no small part of the purposes for which they were created. That there should be, therefore, a complete system of sanitary administration, boards of health should be established in every city, town and incorporated village, and in the less thickly settled States and where the necessity exists they should also be established for townships or counties.

Whether or not a single health officer with all the powers of a board may not in some cases be more desirable, I will not attempt to discuss. And yet outside of the large cities, where the necessity for them is so urgent and imperative that there are usually well constituted boards of health, although often suffering for the want of sufficient appropriation, in many of the States there has existed and does still exist, notwithstanding there has been of late much improvement, a most unsatisfactory condition of affairs, as may be seen by referring to Dr. Toner's paper on "Boards of Health in the United States,"[1] or the information upon this subject to be found in the reports of the various State Boards. It is surprising that the need is not more keenly felt, and yet it would seem as if an active board of health is often looked upon as a set of sanitary fanatics who involve a community in expense, annoyance and useless alarm, frightening away newcomers and involving every one in unnecessary trouble, opposition frequently coming from the very classes who need it most; for, as Sir William Jenner says, "the value placed by a community on individual life is one of the great tests of the state of civilization." The obstacles in the way of boards of health are in fact mainly due to the indifference, ignorance and prejudice on the part of communities and of the authorities upon whom their appointment rests, which interfere with proper legislation and with adequate support of the board after its formation.

One of the principal reasons for this indifference and apathy is that the work done by boards of health being of a preventive nature, the results obtained are not at once appreciated by the public at their full value; since to estimate and demonstrate their worth, requires a very careful consideration of all the vital statistics and conditions of a locality. As Dr. Parkes has stated, "the establishment of the Registrar-General's office in 1838 and the commencement of the system of accurately recording births and deaths will hereafter be proved to be, as far as the happiness of the people is concerned, one of the most important events of our time." It sometimes happens, moreover, that, owing to the great natural advantages of a place and the absence of any serious epidemic, the general death-rate may be quite low, even for a number of years, without due attention being paid to sanitary requirements, and a community is not slow in seizing upon this as a reason for neglecting its duty. Sooner or later, however, there will be disaster, of which there were several instances in Newport a few years ago, notably as regards diphtheria, four and even six cases occurring in single houses. The frequent excuse that the general health of a community has been sufficiently satisfactory without stringent health rules is of no real weight, for the question is not so much how little sickness exists as whether any disease has prevailed that is preventable and whether, if proper measures had been taken, the death-rate would not have been still smaller.

Another reason for the prejudice against boards of health is the refusal to see that expert knowledge is required in sanitary matters. Instead of listening to those competent to give advice upon such subjects, communities and city councils are apt to consider themselves fully able to judge about all questions relating to the public health, and because they themselves are not convinced of the need of sanitary reform they conclude that the need does not exist, their attitude towards sanitary science reminding one of the sarcasm of Socrates regarding political science, that he supposed it could not be taught, since the Athenians, although asking the opinion of experts upon all other questions, when it came to politics appeared to look upon every man, however ignorant and uninstructed, as qualified to give advice. Another cause for the dislike is an unreasonable fear and jealousy that individual rights and personal liberty may be invaded by unnecessary rules and restrictions, but liberty is not license, and no man has a right to endanger the health and well being of his neighbors or of the community. Still another cause is that for political reasons the officers of many municipalities object to a separate board

[1] American Public Health Association Reports, Vol. i, p. 499.

of health, being unwilling to relinquish any particle of power. Thus it unfortunately happens that at the present time so many of the health departments, even of our large cities, are improperly organized and entrusted with insufficient powers.

To promote, therefore, the establishment of local boards of health and to render them efficient (for an inefficient board of health may be worse than none at all), there are various needs which must be satisfied, relating, 1, to the appointment and organization of the board; 2, the legal powers with which it is entrusted; and 3, the means by which its orders are carried into effect. First, the State law upon the formation of local boards should be mandatory, and if certain of the local officers are designated in it as members of the board—which, if allowable in small places, is certainly objectionable in cities, where the board should be as far as possible removed from the influence of local politics—it should be clearly specified that such boards must be distinct organizations with their own independent and peculiar duties and separate officers, who shall be regularly and formally elected. The experience of many of the States, Rhode Island among the number, shows that merely *ex officio* boards of health entirely composed of the local town or city authorities, without regular organization and definite duties, are incompetent to deal adequately with health problems; in ordinary times they are inactive, and when an epidemic comes they are usually unprepared and unable to act as the occasion demands.

With regard to the method of organizing an independent board, little or nothing can be added to what has been already said in the admirable papers of the late Dr. Leconte[2] and Dr. Lee[3] The appointment of the members, when not designated in the State law, will usually rest with the City Council or town or village officers, and they should not be chosen by popular vote. They should be from three to seven in number according to the size of the place and, as a board of health should be a permanent body and may be expected to increase in efficiency from past experience, the terms of office should be for long periods and should not all expire at the same time; so that the membership, if changed at all, should only be done so gradually, leaving always a majority of old members. Those who are selected should be appointed, as far as possible, with a view to their fitness for the position. Too often this is utterly disregarded, and from local political influence the appointment is frequently made of men who are not only uninformed about sanitary matters, but may even be indifferent or antagonistic to them and greatly obstruct the board's work. The words of John Stuart Mill, referring to this country, may well be borne in mind, when he spoke of the "incompetency and mismanagement arising from the fatal belief of your public that anybody is fit for anything." The board should elect a chairman or President and a Secretary, and it will be of advantage, when it is composed of five or more members, to appoint standing committees upon special departments of sanitary work. The health officer, upon whose efficiency the successful accomplishment of the measures directed by the board largely depends, should possess suitable qualifications, and a good salary should be attached to the office, that men of sufficient ability may be secured. He should usually be a physician unless none can be obtained, and should be appointed by the board, not by the local authorities. He should be present at its meetings but not vote.

It is an absolute necessity that boards of health should be given full power to enforce all sanitary ordinances and laws and have authority to arrest and punish any persons who may resist their legal orders or endeavor to prevent their being carried into effect. Various provisions are made in the different States for the legal enactment of health regulations. In some they must be adopted as ordinances in town meeting or by a City Council, who are, however, not always willing to do this. In others, like the State of New York, full power is given every local board to make regulations which shall be obeyed as laws. The law of the State of Maine upon this subject seems to me a very satisfactory one, viz.: that such regulations, after being adopted by the board, become legal on the approval of a Justice of the Supreme Court of the State. It is highly desirable that, as has been done in many States, there should be a general form suggested by the State Board for local ordinances; capable, of course, of modifications or additions. This will to a great extent silence criticism when it is known that similar regulations apply to all localities in the State. It is advisable that the regulations be not too numerous, as they are worse than useless if the local board cannot enforce them.

Local boards, even when legally authorized to enforce sanitary ordinances, do not always in practice find it easy to do so. In large cities boards of health have their own legal and police officials, and so are able to act with promptness. In smaller places the actual enforcement of the laws must be done through the ordinary local prosecuting and police officers, who must be definitely required to attend to violations of ordinances or regulations reported to them by the board without unnecessary delay. In places of sufficient size one or more special sanitary police will be of much assistance, and there should also be, whenever required, a suffi-

[2] "Sanitary Problems: The Proper and Rational Method in which Municipal Boards of Health should be Organized." By John L. Leconte, M.D. American Public Health Association Reports, Vol. iv, pp. 131–134.

[3] "The Proper Organization of Local Boards of Health." By Benj. Lee, A.M., M.D., Ph.D. First Report of Pennsylvania State Board of Health, p. 135.

cient number of inspectors and other officials for attending to the various necessary details of the work of the board. It is needless to say that a board of health is helpless without a sufficient appropriation.

It is a far easier task to point out the want of boards of health and their needs when established than to provide a remedy, but the main effort should be directed towards impressing upon the community in general and local authorities in particular the value of the results to be accomplished through boards of health, and so to educate the public that a separate health organization will be looked upon as much as a matter of course as a fire or police department.

There are several influences which will tend to create this desirable condition of affairs. First, as before said, if it can be obtained, let there be a State law, of which that of New York furnishes a good pattern, requiring the formation of separate local boards at least for cities and towns, for nothing short of this will succeed in overcoming the apathy manifested in some localities. In Connecticut, for example, five months even after such a law was in force, in 1887, such was the indifference that fifty towns had not organized their boards and reported their health officers to the State Board in compliance with the law, notwithstanding that they had been notified of their duty. The subsequent effect of the law, however, in that State has been most satisfactory. Let all the influence, then, of State Boards, sanitary protection associations, the press, physicians and clergy be exerted to obtain such legislation, and when this is unattainable let, at least in the separate towns, endeavor be made as far as possible to move the local authorities to action. The State Boards especially can do much towards securing proper legislation and can greatly assist the local boards by providing them with all the information they need, especially on their first organization. Great assistance may be rendered by sanitary protective associations. That of this city, the first organized in America, has exerted, in spite of a large amount of abuse and opposition, no small influence in securing a board of health and in interesting the community in sanitation. The influence and work of a local board can be greatly aided by the physicians of the place through their coöperation in checking the spread of infectious diseases and in assisting in the proper registration of vital statistics, in calling attention to sanitary requirements and in general support. In this connection I would refer to the paper by Dr. Bryant, of New York.[4] The press and clergy can also be of great help; and finally, the board itself, by its efficient work its tables of statistics, and care not to be unreasonably exacting, can gradually elevate the public sentiment and attain to the position of importance which it ought to occupy.

The history of the city of Newport in its health matters will serve as an illustration of some of these remarks. Its celebrity and importance as a place of summer resort render a due attention to questions relating to the public health of peculiar importance to its prosperity. Attention has been repeatedly called to defects in its sanitary administration and the nuisances which were suffered to exist, by the late Dr. Marion Sims, by Dr. John C. Peters, by Mr. Bowditch in a report of a house to house inspection published by the National Board of Health,[5] by Dr. Storer, and also by the city Sanitary Protection Association, and the need was urged of a separate board of health; but the law of Rhode Island not requiring, but merely permitting the formation of independent health boards, the power to establish such a body rested entirely with the city board of aldermen. By petitions, representations, and the exercise of influence of various kinds, the aldermen were at last brought to see the advisability of a separate board, and accordingly in 1885 an ordinance establishing one was passed. This ordinance is not permanently in force, but requires to be reordained every year, and gives to the board limited powers, it having no authority to make, but only to suggest sanitary ordinances, while the city authorities still retain control over matters over which the board of health should properly exercise supervision; such, for example, as the disposal of garbage. The executive officer can only be nominated by the board, and is appointed by the City Council. The board has legal authority to abate nuisances and enforce regulations, but the means of promptly enforcing them seem as yet imperfect, apparently from a want of a thorough understanding and coöperation between the board and the city legal and police authorities. Nevertheless it has done good work in preventing the spread of infection and in keeping the public informed, by the tables it publishes, of the state of the public health. Where it has been least successful is in remedying the old leaking cesspool system of drainage and other similar evils, for which the city authorities are in no small degree responsible, as they have not yet passed an ordinance making sewer connections compulsory in the compact part of the city, notwithstanding this has been recommended in three successive reports by the board. The board has thus been impeded by want of proper legislation, as well as by the want of means to carry out reforms, but it is made up of competent members possessing the public confidence, and there are few in the city who would now wish to return to the old state of affairs.

It is to be hoped, therefore, that as the public both here and elsewhere become more fully convinced of the importance of the matter, this and

[4] "How can the Medical Profession aid the Board of Health?" By Joseph D. Bryant, M.D., Health Commissioner, New York. N. Y. Medical Record, November 12, 1887, p. 613.

[5] Report of National Board of Health, 1882, appendix C., p. 153.

other places in like condition may not long be destitute of what are so needful for their welfare, thoroughly efficient independent boards of health, with ample powers.

DR. HIBBARD, of Indiana, said that in new organizations there was generally an attempt to mark out too extensive a programme at the outset, and that in his opinion it was better to advance more slowly, to be active in these matters but conform to the character of the environments.

DR. SMART, U. S. A., expressed himself as in favor of activity and energy in these directions.

DR. MORRIS said that for his part he was greatly interested in the matter of plumbing and that, greatly to his surprise, he found in the hotels of Newport abundant evidence of neglect in this important matter.

DR. STORER, of Newport, replying to Dr. Morris, explained that while the Board of Health of Newport had done what it could, it was aware that some of the hotels had not yet adopted the suggestions of the Board.

DIOSCOREA VILLOSA—WILD YAM.

Delivered in the Section of Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOHN V. SHOEMAKER, A.M., M.D.,
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It is the writer's purpose in this brief paper to call attention to dioscorea villosa, a valuable plant, but one that is seldom employed by reason of the scant literature upon its medicinal action. It is my hope that if the short clinical experience which I have had in the past continues to bring good results, that in the future it may lead to further and better investigations upon this remedy.

Dioscorea villosa, a plant which is commonly known as wild yam or colic root, is found in profusion throughout the Southern and to a limited extent in the Northern and Western States. Thirty years ago it was eulogized by King, of the Eclectic School, as a true specific for bilious colic, no other agent being necessary in this disease as it gives, he reported, prompt and permanent relief in the most severe cases. This statement has been repeated many times since by the disciples of the Eclectic doctrine, and is undoubtedly true. The part of the wild yam used is the root, which is inodorous, but on bruising develops a slight woody odor. To the taste the root is somewhat pungent, sweetish and bitterish. It is pulverized with difficulty, yielding a yellowish gray powder. The root is soluble in both water and alcohol and contains an active principle known as dioscorein, which possesses nearly all the medicinal virtues of the root. A further analysis of the root would be of great advantage in studying this plant, as well as an investigation upon the physiological and therapeutic action of the active principle. The want of time has prevented my giving attention to the all important consideration of this portion of the subject, which I hope to investigate, or see others do so in the future. I therefore regret I am not able to add in this connection the physiological action of this plant which still remains to be studied. The scope of the paper is limited to the clinical results so far experienced from dioscorea. The preparations of wild yam usually employed are a decoction, the dose being from one to four fluid ounces, a tincture, the dose from ten to sixty minims, and the fluid extract, the dose being about half of that of the tincture.

Large doses of any of the preparations named have produced emesis. From its action it has been classified by King as an anti-spasmodic. It acts likewise as a diaphoretic and has some expectorant properties. Dioscorea appears to have an especial effect upon the liver, as nux vomica has for the spinal cord. It is a most useful remedy in the treatment of the various diseases of the hepatic system. In that painful affection known as bilious colic, which is the result of the pressure or impaction of one or more gall-stones in the biliary ducts, dioscorea often affords great relief. The treatment usually recommended consists of the administration of copious draughts of hot water, a prolonged course of phosphate of sodium, the inhalation of chloroform, heroic doses of morphine, or a combination of turpentine and ether, and even with all these remedies we are told that the disease may persist for days and weeks. Yet as related by King thirty years ago, and as restated by Dr. Todd in the *Atlanta Medical and Surgical Journal* some two years past, every case of bilious colic can be cured in a brief period, varying from a few minutes to a few hours by the administration of dioscorea alone.

The only qualification necessary to this claim at present is that the cases must be of pure biliary nature due to the presence of a gall-stone or of thickened, hardened bile in the biliary ducts, and not cases of intestinal colic from other causes. A good rule in practice is to see if with the colicky pains and nausea there be also any yellowish discoloration of the skin or conjunctiva. If there is, dioscorea will usually give prompt relief; if there is not, it may have to be supplemented with other remedies. Even when the stage of incipiency is passed, when the delicate lining of the ducts are engorged and inflamed, so that the bile cannot pass through, dioscorea will be found of infinite value in lessening the engorgement, relaxing the tension of the biliary channels, and cutting short the course of the disease. That indefinite complaint known as hepatic torpor or hepatic indigestion, resulting in dull headaches, loss of appetite, mental inaptitude, causeless melancholy, and a train of other symp-

toms, can be quickly and permanently relieved by the fluid extract of dioscorea taken in fifteen drop doses before meals. Of course if there be another cause at work, such as constipation, improper hours, ill-prepared food, excessive use of liquor or tobacco, etc., they must be removed or counteracted. If tonics are needed, they must be given in addition to the dioscorea. An excellent tonic containing dioscorea is as follows:

Take of fluid extract of dioscorea villosa, 1 ounce.
Compound tincture of cinchona, 5 ounces.
℥. Dose: A teaspoonful in water before meals.

In cirrhosis of the liver too much benefit must not be expected from any remedy. In spite of all our efforts the inexorable advance of the fibrous connective tissue, crushing out blood-vessels, biliary cells and nerves, can be retarded for only a short time. My experience leads me to hope that for this purpose dioscorea may be found more beneficial than the two-edged mercuric, bi-chloride, which is now so largely employed. In chronic congestion of the liver, characterized by fullness of the right side and an increased area of percussion dulness and a general impairment of the digestive functions, a marked improvement and a gradual cure may be obtained by the administration of from ten to forty drops of the fluid extract of dioscorea in water before meals. In those suffering from an over-indulgence in alcoholic stimulants, and in alcoholic catarrh of the stomach, no better remedy can be suggested than dioscorea. The following combination in the latter disease is of value:

Take of tincture of belladonna, ... 24 drops.
Tincture of nux vomica, . . . 1 drachm.
Tincture of dioscorea villosa . . ½ ounce.
Sirup of ginger, ... 2½ ounces.
℥. Dose: A teaspoonful in water every 4 hours.

In chronic malaria great benefit can be derived from the use of dioscorea alone or in combination with other remedies. A prescription of service in this affection is appended:

Take of solution of arsenite of potassium, 1 drachm.
Tincture of dioscorea villosa . . . ½ ounce.
Compound tincture of cardamon, 2½ ozs.
℥. Dose: A teaspoonful in water after meals.

The following combinations containing dioscorea will also be of benefit in malaria:

Take of tincture of nux vomica, . . . 1 drachm.
Tincture of dioscorea villosa . . ½ ounce.
Compound tincture of cinchona, 5 ozs.
℥. Dose: A teaspoonful in water before meals.

Take of sulphate of quinine, ... 20 grains.
Tincture of dioscorea villosa . . ½ ounce.
Sirup of orange flowers, ... 3 ounces.
℥. Dose: A teaspoonful in water every 4 hours.

For preventing bilious headache, or modifying the attacks after they have appeared, dioscorea has proved of value. In intestinal indigestion, due to the lack of sufficient bile as manifested by the development of offensive gases, clay colored stools and general mal-assimilation, remarkable benefit may at once follow the use of dioscorea combined with a little capsicum or strychnine.

Cancer of the liver is of course an incurable disease but more relief can be afforded to patients suffering from it by adding dioscorea to their morphine than by administering morphine alone. It is probable that dioscorea will be found of great service in the treatment of many other diseases totally unconnected with the liver. Its great power in relieving the spasm or contraction of the biliary ducts would indicate its use in various affections where anti-spasmodic remedies are requisite. Time and investigation alone can adequately measure its importance. I hope that the recital of my experience with it and the gratifying results it has yielded will induce others to test the efficacy of this valuable remedy. The following cases may be of interest showing the beneficial results from the use of dioscorea:

Case 1.—Mrs. A., aged 35, had been suffering from colic at times for eight months. The attacks lasted from eighteen to twenty-four hours and often recurred weekly. The pain was frequently intense and could only be temporarily allayed by whiskey and laudanum. Spontaneous relief was always preceded by vomiting after, as she tersely expressed it, "she was played out by the pain." On one occasion the pain was so violent that the attending physician, becoming alarmed, sent for me in consultation. On entering the room the yellowish hue of the patient's face, arms and neck at once attracted my attention. The conjunctiva was unchanged. On inquiry I learned that her color varied similarly with every recurrence of the colic, and gradually became normal after the subsidence of the pain. As this was the first case of biliary colic that I had seen since the publication of Dr. Todd's article, I determined to try the merits of dioscorea on it. I accordingly sent for one ounce of the tincture of dioscorea, and directed that the patient be given thirty to sixty drops every half hour until the pain lessened. On calling in the evening I was surprised and gratified to learn that the pain had disappeared with the third dose of the medicine and had not returned. I then ordered the remedy to be continued in the same doses every three hours, and instructed the attendant to search any evacuation that might occur from the bowels for gall-stone. When I returned the following morning I found the patient had passed a large gall-stone during the night and was able to be around attending to her usual duties. She continued the dioscorea for two weeks and has not had a symptom of colic or of ill-health from that time.

Case 2.—Miss M., aged 22, while lifting a tub of clothes was suddenly taken with a sharp pain in the right side which was greatly increased by attempts to take a full breath. Thinking that she had suffered some internal injury, she sent

for me. After making an examination of her chest I was unable to discover any indication of pleurisy or of a deep seated sprain, but as in the preceding case a peculiar brownish or yellowish-brown discoloration of the skin was found to be present. On being given a looking glass the patient admitted that there was something wrong with her complexion. It was then my opinion that this was a case of sudden obstruction from a gall-stone and would furnish a good opportunity to further test the value of dioscorea. I directed the patient's mother to give her thirty to forty drops of the tincture every two hours, and left the usual directions about having the evacuations searched for gall-stone. The pain disappeared after the second dose of the remedy, and during the night she passed two good sized gall-stones. In neither of these cases was the discoloration so marked as to simulate or resemble jaundice.

Case 3.—Mrs. C., aged 45, after exposure to wet and cold was seized with a sharp pain in the right side. The next day her eyes and skin had a yellowish-green appearance. I was sent for and pronounced the case jaundice, due to the presence of a gall-stone in one of the biliary ducts. I ordered her 30 to 40 drops of the tincture of dioscorea every two hours. On returning in the morning I found her much improved and inclined to doubt the correctness of my opinion that she had jaundice, for, as she truthfully said, she "had never heard of anybody being cured of jaundice in a day." Notwithstanding this good lady's opinion, I believe that there are many cases of jaundice due to the arrest and detention of gall-stones in the ducts, which if treated properly may be dissipated as promptly as followed in this case.

Case 4.—Mr. A., aged 25 years, has been subject for several months to "bilious attacks," lasting for three days and characterized by violent frontal headache, great loathing for food and obstinate constipation. On applying for relief on Christmas eve, he stated that all his symptoms were aggravated by the knowledge that he would not be able to eat any Christmas dinner. I assured him that his fear was unnecessary, that the attack would be cut short long before the dinner was prepared. I directed him to take three 30-drop doses of the tincture of dioscorea during the evening and two compound cathartic pills on going to bed, and to resume the dioscorea in the morning. He returned about a month afterwards stating that the medicine had worked like a charm, and asked for some more to ward off another attack. I renewed the same prescription and he has not had the slightest headache or any digestive trouble since that time.

Case 5.—Mrs. D., aged 37, informed me that she was suffering from "cramps of the womb," due to falling of that patient and long suffering organ. She was without doubt having severe pain as the expression of her face and the contortions of her limbs gave evidence, but doubting her ability as a diagnostician, I asked her how she knew the cramps were caused by her womb being out of place. She replied that she had similar attacks on two previous occasions, for which she was treated, and that the cause of her suffering was prolapsus or falling of the womb. She added that on the first instance she was in bed for two weeks, and on the second for thirteen days. I made a vaginal examination and found that the uterus was markedly prolapsed, but that it was also free from pain, and I therefore concluded that her opinion of the former attacks was incorrect, and the seat of the disease was in some other portion or organ of the body. Upon looking at the patient's countenance again I detected a slight yellowish discoloration which, as in the former cases, suggested to my mind a favorable biliary origin of the colic. The tincture of dioscorea was then ordered, in 30-drop doses, with the gratifying result of yielding complete relief within six hours and enabling the patient to get up two days afterwards and attend to her household duties. The evacuations were carefully searched for a week but no gall-stones discovered.

WHAT CAN WE DO TO INDUCE THE GOVERNMENT TO MAKE THE CENSUS OF 1890 CONTRIBUTE EFFICIENTLY TO A CLEAR CONCEPTION OF THE CAUSES OF BLINDNESS.

Read in the Section of Ophthalmology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY ROBERT TILLEY, M.D.,
OF CHICAGO, ILL.

The disinterested efforts which have been made by different individuals who have embraced the study of the healing art, for the general welfare of the race, will compare favorably with similar efforts made by any other section of the world's workers. Often these efforts have been made in the face of the wildest and most fanatical opposition, and practically always have they been confronted with appalling obstacles. It needs no mental acumen to perceive that in order to overcome successfully any evil we must know the nature of that evil, and according to our present experience we must know it in all its details. A disease which in some haphazard way disappears from our midst to-day will reappear at a place and time when we least anticipate it. But if we understand its peculiarities definitely we are not only in a position to try intelligently to suppress it, but also to try and abolish it entirely, or to successfully meet its future approaches. I am satisfied that if it were possible to get a complete

tabulation of the blind of the various countries of the globe a well-informed and well-balanced mind could draw very important deductions relative to many peculiarities of the various peoples. By a complete tabulation I mean a tabulation which should indicate not only the number of the blind, but also the various agents which have caused the blindness. One very peculiar and interesting fact has been strikingly illustrated by Dr. Hugo Magnus, of Breslau. Among the many interesting items in his excellent work, "Die Blindheit ihre Entstehung und ihre Verhutung," in appears that in Bavaria the census of 1840, 1858, and 1871, have shown that the Jews furnish a relatively greater number of blind than the Catholics, and that the Catholics furnish relatively a greater number of blind than the Protestants. He has further shown that the censuses of Prussia for 1871 and 1880 give corresponding results; namely, that in Prussia a given number of Jews furnish more blind persons than a corresponding number of Catholics, and a given number of Catholics furnish a greater number of blind than the same number of Protestants. I do not quote the actual figures presented by Magnus because my object is only to call attention to the item as one of interest in a census of the blind.

England and Scotland, in the census of 1871, furnish about the same relative number of blind, but a little in favor of Scotland. There can be little doubt that the relative number of Protestants is greater in Scotland than in England. Ireland, greatly in excess of England and Scotland, corresponds absolutely with the channel islands.

Comparing Ireland with itself, it is stated without further definiteness that the South of Ireland gives 17 blind in 10,000 inhabitants, whilst the North of Ireland furnishes only 9 in 10,000; not much more than one-half as many. The North of Ireland may in general be called Protestant.

If such figures as these are shown to exist throughout the various parts of the civilized world they certainly are of intense interest, whatever deduction we may draw from them.

Another item of interest which Magnus sets forth in detail in the book before referred to, is the number of blind from ophthalmia neonatorum. In a carefully prepared table giving the various causes of blindness in 2,528 cases examined by himself and other competent observers it appears that ophthalmia neonatorum contributed a larger percentage of blind than any other affection, namely, 10.87 per cent., and trachoma and blennorrhœa adultorum come next, with 9.49 per cent. Without inquiring further these two affections thus contribute 20 per cent., at least, of the blind, and both of them must be practically considered as preventable diseases.

It is not improbable that these figures represent somewhat accurately the percentage which these affections contribute to the number of blind here in America. And when we remember that a case of blindness from ophthalmia neonatorum is a whole life-long affection, the seriousness of the affliction becomes apparent. According to the statistics of the lying-in establishments at Leipzig, which may be taken as a sample, in 1874 out of 100 infants 13.6 suffered from ophthalmia neonatorum, whilst in 1879 the proportion was 9.2 per cent. I remember, without being able now to cite the source, that a few years ago a report from one of the lying-in establishments in New York the proportion was about 10.7.

I have not at hand any definite and reliable figures showing the number of blind from this affection in the institutions for the blind in America. The principal reason why I have chosen to refer especially to this particular affection is because it affords an instance of the affection which of all others has been demonstrated to be the most favorably influenced by a system of prophylaxis. These prophylactic measures are well known to you and do not now concern me. What I desire to do is to induce you to make some effort to render the coming census of 1890 more complete relative to the general question of blindness. The importance of the question lies in the fact that it is only by an accurate estimation of the question that we can hope intelligently to modify its dire results. It ought to interest the moralist, it certainly must interest the political economist, the humanitarian and the physician. It certainly is not to the credit of any nation to have a relatively large number of blind among its citizens, and America ought to furnish a smaller number relative to her population than any other nation on the face of the earth. But it is useless to claim what ought to be, the only efficient means of estimation is to know what is, and the only means of intelligently profiting by the bare statement of the numerical fact is to know how it occurs.

I am aware that the tabulation of the blind with the various causes of blindness is a complicated and difficult question and that it cannot be accomplished by the general army which constitutes the census recorders. But that it is not impossible is shown by the efforts of some of the quiet workers of Germany—Katz, Magnus and Lackmann. That it is a work which cannot be accomplished by private individuals, and that it certainly would form a most valuable basis for a system of prophylaxis against blindness; that it would be a contribution to a kind of international hygienic and prophylactic exhibition; that it

[NOTE.—Were I trying to give an adequate conception of the disasters that arise from ophthalmia neonatorum it would be necessary to say that in twenty-two institutions for the education of the blind in different parts of the continent of Europe 40 per cent. of the inmates were blind from ophthalmia neonatorum.]

would furnish the physician, philanthropist, moralist and political economist facts relative to one of the world's greatest woes, should be stimulus enough to make the Government undertake the effort. Perhaps it is not to be expected that it could be satisfactorily carried out all over the United States at the first effort, but even if the effort was made in only a few populous and representative States, the interest and value of the work would be great. As has been previously stated, it is not for one moment supposed that the desired investigation could be accomplished by the ordinary census officers, all that could be expected from such officers would be a list of the names, ages, residences, nationality, religion, etc., of the persons afflicted, and the further work of technical classification of affections must necessarily be accomplished by men intimately acquainted with the nature of the diseases of the eye and ophthalmological phraseology. It would, moreover, be desirable that one recognized form should be used by all such tabulators. Magnus, of Breslau, has advocated just this work in his work referred to above, in reference to Germany; and to facilitate the matter he has drawn up a series of questions which leave very little, if anything, to be desired relative to simplicity, completeness and efficiency. I have translated this table without alteration, and will take the liberty to read it.

1. Name?
2. Age?
3. Religion?
4. Calling, before blindness; after blindness?
5. If a child, calling of father?
6. Parents related?
7. Parents' eyes affected?
8. Brothers or sisters affected with blindness?
9. Married?
10. Married before or after blindness occurred?
11. Husband or wife any affection of the eyes?
12. How many children with normal eyes?
13. Color of hair?
14. Color of the iris, when visible?
15. At what age did blindness occur in right eye?
16. At what age did blindness occur in left eye?
17. Condition of right eye?
18. Condition of left eye?
19. Cause of blindness in right eye?
20. Cause of blindness in left eye?
21. Grade of blindness in right eye?
    (*a*) Total amaurosis?
    (*b*) Quantative perception of light?
    (*c*) Count fingers at 12 to 15 in. (⅓ m.)?
22. Grade of blindness in left eye?
    (*a*) Total amaurosis?
    (*b*) Quantative perception of light?
    (*c*) Count fingers at 12 to 15 in. (⅓ m.)?
23. Was the blindness the result of a general affection?
24. Still affected?
25. Do any other conditions, important relative to the blindness, exist?
26. Did the blindness occur in the country or city?
27. How long a resident of the place before blindness occurred?

Such is the proposed list of questions which Dr. Magnus has formulated as a desirable list in order to give the investigation of the nature of blindness a uniform character. It would be difficult to modify the form in any scientific question without impairing its efficiency in some way.

It is not for us to suggest how such an investigation should be made. In order to be of value it should of course be accomplished within a short time of the general census returns; and if it could not be accomplished in all the States and Territories, it would be decidedly advantageous if it was done even but in a few States.

DR. J. L. THOMPSON, of Indianapolis, said: We should not be in too great haste in such a matter as this. Better by far teach the people, through the medical journals and newspapers, as to cleanliness and preventive treatment, than to resort to methods which, owing to the lack of time, gives to those whose duties concern the census taking have already been determined. Our country is vastly different from the older ones, being much more sparsely settled. Religion certainly has but little to do with the case. In the older countries in some quarters the Jews may have been more crowded, or possibly in the Catholic districts of Ireland and other countries the conditions of the people may not be as favorable as in other nations where the Protestants are often in affluent circumstances. Here eye diseases have been vastly increased since our internecine war, owing to the carelessness of returning soldiers communicating brachomatous inflammations to their families and friends by the use of the same towel, sleeping in the same bed, handling the same farming implements, etc. Educate the people, but let the Census Bureau alone. At least, as a Society, let us go slow about this matter.

Considerable discussion followed, in which Drs. Connor, Scott and Jackson took part. Finally it was moved and carried that a committee be appointed, by the Chair, to request the General Assembly to authorize the Section of Ophthalmology, together with the American Ophthalmological Association, to confer with the Census Committee. Drs. X. C. Scott, Robert Tilley and J. Chisholm were appointed on this Committee.

GEORGIA PHYSICIANS are agitating for an adjustment of fees. A meeting was held at Kingston to-day to advocate a universal fee bill.

A NEW PLAN OF TREATMENT FOR PNEUMONIA.

Read in the Section of the Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY G. R. MARTINE, M.D.,
GLEN'S FALLS, N. Y.

Every new theory is at first more or less ridiculed by the incredulous class, and the number of those incredulously inclined is unfortunately as large to-day as when Harvey discovered the circulation of the blood, or Jenner promulgated the boon of vaccination. Hence no surprise will be created should this new plan of treatment for pneumonia be derided, or even denounced in terms more vigorous than elegant. But still among you all there may be one patient investigator searching for truth, who will give this new theory a practical test; and if so, he will be induced to make a second trial; and when he ascertains that substantially it never fails, it will then become his fixed, permanent and unalterable practice in the treatment of pneumonia.

No attempt will be made in this paper to enter into an extended research or exhaustive analysis relative to the cause, pathology or results of pneumonia, or to discuss at length its different forms and phases. It is simply to a new plan of treatment toward which your attention is called, and to this point all efforts will be directed. Almost every known plan has been adopted in the treatment of pneumonia, and the new remedies have been eagerly sought after; first one and then another has played its rôle on pneumonia's stage with but indifferent success. Bleeding, vomiting, sweating, blistering, poulticing, depleting, stimulating, all local and all general plans of treatment have been faithfully and persistently carried out with marked thoroughness and perseverance; and yet to-day, after all the advancement made in the science of medicine, pneumonia, though a curable disease, stands second only on the roll-call of death. Shall we continue longer in these old ruts, with this appalling death-rate staring us in the face at every step, or shall we seek out a new and more rational plan of treatment?

The first abnormal symptom observed after the premonitory chill has warned us of pneumonia's approach, is the quickening of the pulse and the consequent increased flow of arterial blood. Now, if we could take a microscopic view of the minute arterial ramifications in the lung structure, we would discern in response to the law of causation, a distention of caliber in the arterial vessels in order to accommodate the augmented flow of arterial blood; and if we could then cast a glance at the veins, we would observe the plasma-layer rapidly filling with multitudinous white corpuscles, and the walls of the veins irritated by the friction of increased circulation would exhibit here and there white corpuscles adhering to their tenacious sides, and finally penetrating their walls. A glance at the capillaries would show not only the white but also the red blood-corpuscles forcing their way through the overstrained capillary walls, until the surroundings became engorged by their extravasation, and the initiatory work of hepatization had commenced, for the comparatively large size of pulmonary capillaries, together with the fact of their not being supplied with vaso-motor nerves, render them easily dilatable under increased arterial pressure. Now what are we to do at this stage of the disease in order to hold in check this increased flow of blood to the lungs, which, if unrestrained, is sure to end in consolidation and death. Reducing the temperature will not accomplish the work. Reduction of temperature does not save in pneumonia as in idiopathic fevers. To what plan, then, shall we resort in this exciting emergency to save the patient from being suffocated by his own blood? Before an answer is given, allow me to use a simile: Should some mischievous hand hoist the gate of an immense reservoir, located at an elevation a thousand feet above this city, and the maddened waters, fiendish with the power of innundation, should sweep through your streets, undermining block after block, and strangling all life within reach of its destructive course, would you not intuitively cry out, shut down the head-gate and save the city?

When the maddened blood, fired by the lash of inflammation, rushes wildly through the channels of life, extruding with demoniacial force through the very walls of the blood vessels the blood-corpuscles and threatening to strangle out the life of the unfortunate victim, intuitively I cry out, shut down not the head-gate but the heart-gate and thus save the suffocating patient who helplessly looks to you for rescue. Say to the wildly pulsating heart, so far or so fast shalt thou go, and no faster, and continue to hold the heart's action under absolute subjection until the crisis is past and the life of the patient is saved. (This crisis is usually reached about the seventh day after the chill.) This is not only what should be done, but what *must* be done, in order to ward off death. Here is where the new plan saves life. You will naturally ask if this new plan is intricate or difficult of adoption, or if it be so extended or complicated as to render it practically inoperative in the hands of the busy practitioner. The answer is, no. The whole method can be given in five words, viz: Hold the pulse below eighty. Keep your fever thermometer in your pocket; it is of little or no use in pneumonia. Death does not result from high temperature in pneumonia, but from high arterial action, resulting extravasation and consolidation and consequent heart failure. The physician who, dallying with his fever thermometer, endeavors to cure

pneumonia by reduction of temperature, will make about as much headway and will be about as successful as he would in trying to eat soup with a peg-awl. You may ask with what remedies do you hold the pulse at this point. While veratrum viride seems to have served me best, possibly there are other arterial sedatives which in the hands of others may act as well. It has heretofore been the practice of medical writers to name the medicines to be used in the treatment of such and such diseases, but in the light of the present day it would be well to drop this antiquated custom and adopt a new method by stating the indications to be fulfilled, the dangers to be avoided, the vantage ground to be gained, the favorable signs to be sought for, and the unfavorable symptoms to be controlled, the main points to be attained, and the results to be expected in the successful management and treatment of any disease, and then allow the attending physician to select such remedial agents as he may choose from among those possessing his confidence after long experience in their use.

In pursuance of this course no radical line is drawn or arbitrary rule laid down as to the remedial agents used, provided they are successful in accomplishing the work of holding the pulse below eighty if in adults, or if children, from one hundred to one hundred and twenty. This point attained and with persistent vigilance maintained, no further trouble need be apprehended, for with the pulse at or below eighty, there will be no extravasation, if no extravasation there will be no consolidation, if no consolidation there will be no hepatization, and if no hepatization there can be no suppuration, mortification or death. Hence pneumonia, by this plan, can be robbed of all its terrors.

But the inquiry may be made: What is there in this plan to provide against heart failure, a condition so greatly to be dreaded, and the reply is: It is far better to *avert* a calamity than to *provide for* one. No censure is due the captain of a man-of-war who thickly covers his deck with sawdust to prevent slipping when blood shall flow freely; but a higher meed of praise is accorded that captain who so carefully erects defenses, so skillfully plans the attack, so closely watches the progress of the battle, and so adroitly conducts the fight that but little blood need flow.

So in this new plan of treatment for pneumonia, but little blood will flow if the pulse be kept below eighty. If no blood be extravasated no consolidation takes place, and if no obstruction from consolidation exist, and the heart's muscular labor be not consequently increased by its continued efforts to force the blood through pulmonary channels already clogged and blocked, and provided further that the heart is restrained and thus relieved from the fatiguing additional labor of 2,000 to 4,000 contractions per hour during the seven days preceding pneumonia's crisis, heart failure in uncomplicated pneumonia would be a thing impossible.

DR. H. A. HARE said that the use of veratrum viride was old and very useful, but that a great mistake is made in saying "use cardiac sedatives in pneumonia" without recognizing the fact that they are to be used in the first stage before congestion has gone on to consolidation. The man who gives such drugs at the middle or end of an attack of pneumonia might as well stab his patient. Digitalis is to be used at such times. As to the lethal results of veratrum viride let me say that very few cases of death are on record, owing to the vomiting which is brought on very early by the alkaloid veratroidia and an emetic resin. It is certainly the safest cardiac sedative.

DR. I. E. ATKINSON, of Baltimore, objected to the claim that the use of veratrum viride in the treatment was new; it had been many years under trial and had not received general acceptance. He called attention to the fact that Dr. Martine's graphic description of "drowning in their own blood" as the mode of death in many cases of croupous pneumonia could not be justified; that frequently the cause of death was in the failing heart action, a condition to which we could not look for benefits from heart depressants. He would not be much impressed by the successful results of giving veratrum viride in the croupous pneumonia of children, since this disorder usually will recover under any ordinary treatment.

DR. CRONYN said: Dr. Martine's new mode of curing pneumonia is not at all new. Bleeding and rasher emetics were the methods of our forefathers to attain the results pointed out by the doctor. We know very well that about forty years ago a complete revolution in the treatment of diseases generally, and pneumonia, was made the basis of argument particularly. I hold, sir, that every case of inflammation of the lungs must be treated upon its own merits, taking into consideration the constitutional condition. The peculiarities of such cases and the remedies are easily determined.

DR. C. O. PROBST, secretary of the Ohio State Board of Health, is sending out circulars to the mayors and councils of all the cities of that State that have not formed boards of health, urging them to do so. The law requires all towns having a population of five hundred or more to establish these boards. The circular says: "One of our smaller villages, which neglected its duty in this matter, is now paying the penalty in a severe epidemic which a board of health might have prevented."—*Sanitary News*, Sept. 7, 1889.

MEDICAL PROGRESS.

ACQUIRED LEPROSY, AS OBSERVED IN ENGLAND.—MR. JONATHAN HUTCHINSON believes that while the possibility of contagion in leprosy is universally admitted in what may be called the abstract, it is very doubtful whether it takes an important share in the spread of the disease; thus, lupus and cancer might be transferred from one person to another, but neither is contagious in a practical sense. In Norway, India and the West Indies nurses and surgeons do not fear to come into contact with lepers for years together. So far as *contagion* is concerned, hundreds of surgeons daily encounter the same risks that Father Damien did, but the latter exposed himself to other dangers as well—to those of food, for example. In England the most intimate possible contact with lepers has not been sufficient in itself to communicate the disease. The varieties of leprosy are the same the world over, in hot and cold countries alike, facts pointing to the inference that the cause must always be the same. In countries where leprosy has died out it has died out absolutely—not a single sporadic case ever originates in England. The cause for the spread of the disease must be sought in *food*; there is little room for doubt that it depends upon some very special kind of poison taken in connection with food. Such an hypothesis would cover all the facts, and none other would.

In connection with his opinions Mr. Hutchinson cites twelve cases which have come under his observation. These were all in patients of British birth. There was no inherited predisposition. In no instance had the patient been exposed to any degree of hardship or deviated from the ordinary conditions of well regulated life. In every case the acquisition of the disease had occurred in some country where it was prevalent. The patients must have received the specific contagion on some part of the skin or mucous membrane, or must have swallowed it in connection with food. All had, however, partaken of food common in leprosy districts, and if we incline to suspect that fish, and especially potted fish, is an ordinary vehicle of contagion, all had undoubtedly been exposed to this risk.—*Brit. Med. Journal*, Nos. 1,487 and 1,488, 1889.

THERAPEUTIC VALUE OF HYPNOTISM.—(From a paper read by M. BERNHEIM before the International Congress for Hypnotism, Paris, August, 1889.) The hypnotic state is that particular psychical state which may be produced and which increases, in varying degree, suggestibility—that is to say, the aptitude of being influenced by an idea that the brain receives and realizes. This is a definition more comprehensible than that generally employed, for to define hypnotism as an induced sleep is to eliminate from hypnotism a class of cases with great tendencies toward suggestion and even hallucination, for there may be hypnotism without sleep.

I obtain some remarkable effects without sleep. I request the patient to close his eyes; I seek to make an impression on him—to make his mind captive, and I affirm the disappearance of certain functional troubles. This is suggestion by word without hypnotism. Sometimes the suppression of a functional trouble or an acute pain may be accomplished instantaneously either permanently or temporarily; at other times it is only gradually brought about about at the end of a number of *séances* depending upon the nature of the trouble and the degree or character of the suggestibility. Hypnotism does not enjoy a monopoly in *suggestion;* the latter may be produced by other means, it has been practiced in all times by physicians with better or worse intent. Purgation by pills of bread-crumbs, the cure of fits by fear of the police, sleep induced by the peroxide of hydrogen, the miraculous water of Lourdes, the practices of the touchers and the masseurs, those of hydrotherapy, metallotherapy, electrotherapy, the secret ointments, the granules of Mathei, homœopathy and the suspension treatment of patients with tabes, all act in part or whole through suggestion. Doubtless hydrotherapy and electrotherapy have of themselves an incontestable action upon the functions of the organism, but this action is not well understood; the assertions of the authors regarding the therapeutical value of the various methods are vague and contradictory for the reason that no one has taken pains to first disengage the element of suggestion.

I often have success with the use of electricity in the treatment of neuralgias, rheumatism, lumbago, nervous aphonia, etc., when I fix my patient's attention closely upon the effects obtained under electrization and tell him that his symptoms will disappear. Electrization with suggestion sometimes succeeds where suggestion alone fails. One of my patients had suffered for months from extremely severe lumbar and sciatic pains. Electrization with suggestion (the vigil state) caused disappearance of the pain at each *séance*, but only for a few hours. I then tried hypnotic suggestion, but with less effect. The patient expressed more confidence in electrization and said that hypnotism alone had no effect upon him. I returned to my former treatment with the result of obtaining a complete cure in two or three weeks.

In metallotherapy I have been able to discover nothing of value aside from the element of suggestion; I do not deny that it possesses other powers, but I have been unable to discover them. I have often applied various metals and magnets to the anæsthetic skin of hysterical patients without informing them of what I was doing, and without producing any effect. By applying the

metal, however, and saying to the patient or the assistants, "here is the metal or magnet which I wish to apply; in three minutes sensibility will return in the hand and in half of the forearm," I often obtain the desired result. The English seem to me to be right (at least in part) when they ascribe the therapeutical action to expectation. The treatment of tabes by suspension has made a great deal of noise lately. The surprising benefits obtained have been attributed to the changes produced in the blood-supply of the spinal marrow, as well as to the stretching of the nerves. From the very first I have thought that suspension is a method of suggestion. Numerous experiments of this sort, by myself and as well as others, upon patients suffering from ataxia and other varieties of myelitis, nocturnal incontinence of urine, and especially the various forms of neurosis, have led them to the same conclusion. The science of medicine endeavors to explain all the mysteries of life by mechanics, physics, and animal chemistry, but the mind is also a factor in the human organism; there is a psycho-biology and a psycho-therapy.

My final conclusion is that suggestive therapeutics rests upon the incontestible influence exerted by the mind upon the body. Its influence upon digestion, nutrition, respiration, circulation, and upon the secretory or excretory functions, is well known, for all the organs, all the functions are in anatomical and physiological relation with the cerebro-spinal nerve centres. Every cerebral cell influenced by an idea tends to realize this idea through the agency of the nerve fibres. The idea becomes an act. Upon this physiological fact is based the psycho-therapeutics of suggestion.

The hypnotic state itself produced by suggestion increases suggestibility by suppressing intellection and augmenting cerebral automatism. It is faith that saves, and the most incredulous people have a faith (I do not say a religious faith); they are no more able to escape from it than they are able to escape from the hallucinations of their dreams. Credence (I do not say credulity) is inherent in the human mind, and thus it is that the human mind becomes a master workman in miracles.—*Le Bulletin Médical.*

THE PROPHYLAXIS OF TUBERCULOSIS.—Last year a congress for the study of tuberculosis was held in Paris. At this meeting a permanent committee was appointed to formulate simple and practical instructions regarding the prophylaxis of tuberculosis. On behalf of this committee M. VILLEMIN has recently submitted a report which had already been approved by four professors of the medical faculty of Paris. The following is a brief summary of this report:

1. Tuberculosis is, of all diseases, the one which has the largest number of victims in the cities, and even in certain country districts. In 1884, for instance, of 57,970 deaths in Paris, 15,000 were due to tuberculosis.

2. Tuberculosis is a virulent contagious transmissible parasitic disease produced by a microbe, the bacillus of Koch. This microbe, apart from direct hereditary transmission, finds its way into the organism through the digestive and respiratory tracts, and through wounds of the skin and mucous membranes. The propagation of tuberculosis may be prevented by well directed precautions.

3. The parasite of tuberculosis may be found in the milk, muscles and blood of the food animals. The use of raw and underdone meat and blood that may possibly contain the living germ of tuberculosis should be prohibited. Milk, for the same reasons, should be boiled before being used.

4. On account of the dangers concealed in milk the protection of infants, who are so easily attacked by tuberculosis, should attract the special attention of mothers and nurses. The tuberculous mother should not nurse her child. Cow's milk, when given, should always be boiled. There is less danger in giving ass's and goat's milk unboiled.

5. It is greatly to the interest of the public to assure the proper inspection of meat, as provided for by law. The only sure way to avoid the dangers of tubercular meat is to see that it is *thoroughly* cooked.

6. Inasmuch as the germ of tuberculosis may be conveyed from a tubercular to a healthy man by the sputum pus, inspissated mucus, and any object containing tubercular dust, it is necessary to bear in mind that:

1. The sputum of phthisical persons being the most dangerous agent of transmission, there is a public danger from its presence upon the ground, carpet, hangings, curtains, napkins, handkerchiefs, cloths and bedding.

2. The use of cuspidors by everyone should be insisted upon in all places. Cuspidors should always be emptied into the fire and cleansed by boiling water. They should never be emptied into rubbish piles, upon gardens, or where there is a possibility of infecting poultry, or even into water closets.

3. It is unsafe to sleep in the bed of a tuberculous patient, or to spend a great amount of time in the room of such a patient; least of all should young children be allowed to sleep in such a room.

4. Individuals considered as predisposed to contract tuberculosis should be kept away from localities frequented by phthisical patients.

5. One should not use objects contaminated by phthisis (linen, bedding, clothing, toilet articles, jewelry, hangings, furniture, playthings, etc.), except after suitable disinfection.

6. Rooms and houses occupied at watering places and resorts should be furnished in such manner that disinfection may be easily carried out after the departure of each invalid. It is the best plan of all to furnish rooms without curtains, carpets or hangings, to whitewash the walls, and cover the floor with linoleum.—*Bulletin de l'Académie de Médecine*, July 30, 1889.

IMMEDIATE TREATMENT WITH CURE OF LACERATIONS OF THE CERVIX UTERI. By MARY E. BATES, M. D.—The writer believes that there are insurmountable objections to suturing a lacerated cervix within a few hours of the termination of labor; first, because of the condition of the patient and of the wound; second, because of the difficulty of introducing the sutures; third, because of the dangers incident to the necessary exposure, and finally because of the impossibility of accurately determining the extent of the laceration. Operations made three or four months *post partum* present certain advantages which are not possessed by the late operations.

A few lacerations may heal by first intention without any special interference, though in the majority of cases involution and repair will not take place satisfactorily. In lacerated cervix the indications are to promote involution and repair:

1. By stimulating the pelvic circulation.
2. By cleansing the parts.
3. By keeping the edges of the wound in apposition.
4. By relieving the relaxed ligaments by supporting the uterus.

These desiderata may be secured by tamponing the vagina with antiseptic wool. This is to be introduced in such a manner as to keep the edges of the wound in close contact and give support to the uterus. The tampon may be left *in situ* for two or three days at a time, and should be reapplied two or three times. After the patient gets up the uterus should still be supported by tampons for at least two weeks longer. By these measures excellent union can be obtained and the processes of involutions be materially hastened.—*Southern California Practitioner*, July, 1889.

FRACTURED STERNUM WITH DOUBLE PLEUROPNEUMONIA.—A man, 64 years of age, was admitted to the General Hospital, Birmingham, in the service of SIR WALTER FOSTER, on May 20th. Respirations were 58, temperature 103°; there was urgent dyspnœa and pains in both sides of the chest. An examination revealed a double-sided pleuropneumonia. There was dulness at the lower part of the chest and at the sides, together with bronchial breathing, crepitation, violent cough and thick tenacious expectoration. The lower part of the sternum from the upper border of the fourth costal cartilage moved with each respiration, giving distinct crepitation. The patient had sustained a severe fall four days previously. Treatment consisted in strapping and the administration of stimulants and a mixture containing acetate and carbonate of ammonia and squill. By the eighth day the respirations had dropped to 44. On the 16th there was a fresh extension of the pneumonia at the left base. This attack passed off, and on the 21st he was free from pain. From this date he made a good recovery, and was discharged on July 11th, at which time the chest-walls moved fairly, the respiratory sounds at the bases were good, though accompanied occasionally by dry, creaking sounds. Union of the sternum had taken place.—*British Medical Journal*, Aug. 3, 1889.

TUBERCULAR MENINGITIS IN THE ADULT.—A man of 52 years, while apparently in the midst of health, had a profuse pulmonary hæmorrhage, followed by consolidation of apex of left lung, in 1887. Milk diet and creosote medicinally for eighteen months enabled him to gain markedly. Temperature during this time, about 99½°; expectoration scanty; increase in weight, 40 pounds. There was a recurrence of the hæmorrhage in July, followed by rapid formation of cavity at apex of left lung and profuse expectoration of pus. He rallied and resumed work after an interval. In March he suffered greatly from headache, with exacerbations on alternate days. Temperature, 105.3°. Nothing served to relieve pain or reduce temperature. After six days delirium set in at intervals. The respiration took on the character of the Cheyne-Stokes type, which continued until death, except as modified by the administration of atropia and strychnia. Convulsions and death eighteen days after the appearance of cerebral symptoms.—*N. O. Med. and Surg. Journal.*

THE PATHOGENY OF NEPHRITIS BY SELF-INTOXICATION.—E. GAUCHER reports, in the *Revue de Méd.*, No. 11, 1888, experiments made on guinea-pigs with leucin, tyrosin, kreatin, kreatinin, xanthin, and hypoxanthin. Subcutaneous injection of these substances produced (like mineral substances: mercury, phosphorus, arsenic, etc.; and vegetable substances: oxalic acid and fuchsin, as proven before by the same author) in every case a nephritis of the epithelium which led to granular fatty degeneration especially of the epithelium in the tubuli contorti. The author warns against giving food rich in extractives (bouillon, meat-extracts, meat-powders, etc.) in all cases where with a disturbed digestion the transformation of azotic nutriment occurs imperfectly, as a nephritis threatens from overburdening the organism with such extractives.—*Centr. für Klinische Medicin*, No. 23, 1889.

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SATURDAY, SEPTEMBER 21, 1889.

EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.

A careful perusal of the comparatively short but eventful history of cataract extraction, will not only repay the reader for his trouble, on account of the interest inherent to the subject, but will also put him in possession of certain facts regarding this operation which will prove of special interest at the present moment, when the question of modifying the usual method of operating is agitating the minds of ophthalmologists.

The history of an operation is the record of men's experience therewith. Therefore when the surgeon is invited to set aside an operative procedure by which he obtains good results, and to adopt a modification of a once discarded operation, it behooves him to turn to the pages of its history, so that he may profit by the accumulated experience of others. The record should be carefully reviewed and the reasons for its having been discarded thoroughly studied. The causes of failure in the past should be examined in the light of our present knowledge, and whether any discovery has been made by which the obstacles to success can be surmounted, is not only a most pertinent question, but one which demands a satisfactory answer.

If the annals of ophthalmic surgery are consulted it will be found that up to the middle of this century the operation for cataract most generally performed was the classical "flap extraction," without iridectomy. It is undeniable that when this operation was entirely successful the result was in every respect all that could be desired. The corneal scar was hardly perceptible, the iris retained its normal form, and the patient, once being rid of his opaque lens, looked through a round and movable pupil. Nothing more could possibly be demanded of ophthalmic surgery. Unfortunately the number of perfect results fell far short of what was desirable. The large corneal flap was apt to suppurate, leading to the total destruction of the eye. The iris, which was oftentimes badly bruised during the expulsion of the lens, frequently reacted, giving rise to harassing iritis, and entailing the contraction of the pupil, with loss of motility and of its regular form. But the great disadvantage of the procedure was the danger of prolapse of the iris. In many instances the result of a perfectly smooth operation, giving promise of a brilliant outlook, was marred by a prolapse of the iris supervening, perhaps, two or three days after the operation, from a fit of coughing, or some other effort, and sometimes without any apparent cause. In some instances the performance of an iridectomy succeeded in setting free the entangled iris, but in the majority of cases the patient was sent out carrying in his eye a source of irritation which constantly menaced the integrity of the organ.

To obviate these difficulties Gibson and Travers, in the early part of this century, tried to extract certain forms of cataract through a small linear incision; Bowman and von Graefe, simultaneously, although independently, revised this method toward the middle of this century, adding one more step to the operation—the removal of a small portion of the iris. Finally, the master-mind of Graefe, perceiving that each operation offered certain advantages, and that neither was adapted to all cases, devised, and then gave to the world, the "modified linear extraction," which did away with the disadvantages of the old flap and the linear extraction, and combined the advantages of both.

The result was most satisfactory along the whole line of operators. Even those who had performed for many years the old flap extraction, securing its occasional brilliant results, reluctantly gave way before the obvious advantages of the new operation, and went over to the ranks of its advocates. The reason for this unconditional surrender is not to be sought, however, in any alleged perfection of the method, for its subsequent history revealed that the operator had to

encounter other dangers, such as the escape of vitreus when the incision was made too far into the sclerotic; but the reason for its general adoption is to be found in the fact that it eliminated almost entirely the two prevailing sources of failure in the old operation, viz.: suppuration of the cornea and prolapse of the iris.

The operation was not destined to live long in its original form. Notwithstanding the acknowledged advantages ensured by the iridectomy, the eyes of some ophthalmologists turned back with longing toward those round, movable pupils obtained in the good old days of flap extraction. Soon the incision began to travel more into the cornea, and every effort was made to do away with the defacing iridectomy. Modification followed modification in rapid succession, so that after a few years all that remained of Graefe's original operation was the knife. Finally a calm ensued, during which the merits of all these modifications were thoroughly tested. The majority of ophthalmologists, perceiving that Graefe's claims were satisfactorily sustained by experience, gradually settled down to perform extraction with iridectomy, limiting their modifications to slight deviations from the original form and seat of the incision. A few operators, however, have from time to time made desultory efforts to banish iridectomy, but within the last two or three years there has been a well-defined movement in this direction. The proposed operation is known as "simple extraction."

As this movement is led by some of the most distinguished ophthalmologists in Europe and America it is bound to command attention, and to exert great influence. Furthermore, some of its advocates are most enthusiastic, and their claims are in some instances supported by carefully prepared reports. To gainsay the statements made by such men is, in a sense, to stand condemned in one's own words. Yet it is unquestionably true that a calm, dispassionate examination of the merits of simple extraction, which, after all, is but a modification of the old flap operation, does not reverse the verdict of the past. It is quite true, that the advances made in antiseptic measures have greatly diminished the dangers of suppuration of the wound, but the proposed improvement over the "combined operation," does not depend so much on the form of the incision, as it does upon the banishment of the iridectomy. And in this particular no advance has been made which will help us out of the old difficulty. The surgeon's control over an eye ceases when the bandage is applied, and the worst cases of prolapse occur after this time. It has been suggested to leave the bandage undisturbed for six days, and to restrain the patients more to their beds, but notwithstanding all these precautions the dreaded "*bête noire*," as Critchett used to name prolapse, will occur, and an anterior synechia is universally recognized as a most undesirable complication.

That removal of lens without performing iridectomy (thus securing a round, movable pupil) is the goal to which every experienced oculist should direct his steps, is undeniable. But the road to this goal is full of pitfalls and difficulties. Hence a note of warning should be sounded for those who have not acquired sufficient experience in ophthalmic surgery to realize the dangers which lie ahead. It requires a most experienced eye to discover when a lens can be extracted without iridectomy, and further, it necessitates a nicety of manipulation acquired only by years of practice to thus accomplish its removal. Let simple extraction then take its place as the ideal operation, but let us bear in mind that like many other ideals it is not always practicable. The modified linear operation, as performed to-day, offers inducements, both in safety of procedure and in brilliancy of results, which cannot be denied, and which should not be underestimated.

Many distinguished ophthalmologists who had discarded iridectomy have returned to it, experience having taught them that it is safer in the long run. It therefore behooves the *expert* operator to weigh the evidence most carefully—the *beginner* should unquestionably adopt the method which on the whole offers the best assurance of success.

LEPROSY IN NOVA SCOTIA AND NEW BRUNSWICK.—Dr. Smith, the medical attendant of the Tracadie Leper Hospital, New Brunswick, having been commissioned by the Canadian Agricultural Department to make inquiry concerning suspected cases of leprosy reported in Nova Scotia, fully confirms the diagnosis. It is also reported that there are a considerable number of other cases believed to exist in the northern part of the province.—*Brit. Med. Journal.*

AUTO-INFECTION FROM THE PRODUCTS OF GASTRO-INTESTINAL FERMENTATION.

There is a large and important class of cases, examples of which are constantly coming under the observation of the general practitioner, sometimes under one guise, sometimes under another; at times bearing clinical aspects of familiar appearance, again presenting an array of symptoms without apparent interdependence and exhibiting manifold functional disorders which seem to affect every organ of the human economy, and to spring from sources so well hidden as to baffle the quest of even the astute physician. These are the cases of that hydra-headed enemy of modern civilization, INDIGESTION. To compass etiology we are obliged to summon to our aid all the wisdom of physiology, chemistry and bacteriology. In our efforts at treatment we have already well-nigh exhausted the resources of materia medica and dietetics, and have little to fall back upon save hygiene—*id est*, common sense.

We can scarcely doubt—indeed, we have already admitted—that it is the Americans who have received the worst drubbing from this monster; and yet, at first blush, it would seem as though the United States, the granary and pasture of the world, with a population supplied with a greater variety and better quality of food than any other nation, would hardly be this monster's favorite victim. It might be said, indeed, that we have too great an abundance, and that we are suffering from the results of too much luxury and refinement in eating and drinking. But if sophistication in the preparation of food is a danger, it would seem that the French, with their culinary subtleties; the Germans, with their insipid steamed meat and stomach-destroying "*mehlspeisen*," and the Italians, with their garlic and oil, ought all to come in for their full share of punishment. The truth of the matter is, doubtless, this: The Americans are no more indiscreet in what they eat and drink than are the other nations. The difference is rather to be found in the *way* they eat and drink, and in the manner of their life; in other words, the hygiene of European life is, in many respects, more rational than ours. In European life there is less hurry, less anxiety, less precipitation, and more of out-door life and physical exercise. Even their habits of drinking are less injurious than ours, for they rarely drink beer or wine or liquor except at meal times. In fact, were it not for the abhorrence that the continentals exhibit for fresh air within doors, one might say that nearly all their hygienics are superior to our own.

Fortunately enough for the great army of "dyspeptics," the work that has been done in the study of the causes and treatment of the disorders under consideration (and certainly in no department of medicine has more been done than in this) has borne rich fruits; and especially may we congratulate ourselves in the development of the facts elicited by the aid of bacteriology. From the chaos of dyspeptic symptoms we have learned to differentiate, more or less accurately, certain complex uses of disordered function which supply us at once with the key-note of etiology and the guide-post to rational treatment. The modest general practitioner, who has hitherto feared lest he might tread upon the toes of the redoubtable neurologist, is beginning to learn that it is really the latter who has all along been trenching upon the general practitioner's own favorite field. Auto-infection has now come to explain to the general physician much that has hitherto been a perplexing puzzle to him. Brunton has drawn attention to this matter in the following striking expressions: "Perhaps we are not yet sufficiently alive to the important results produced by the absorption from the intestinal canal of substances generated in it by fermentation, or imperfect digestion. We recognize the danger of breathing gas from a sewer, but probably we do not sufficiently realize that noxious gases may be produced in the intestines, and, being absorbed into the circulation, may produce symptoms of poisoning."

An excellent illustration of this thought is found in a recent contribution to the *New York Medical Journal* on "Nervous Symptoms Caused by Functional Gastro-intestinal Disorders," by DRS. W. W. VAN VALZAH and CHAS. R. CRANDALL. To a very interesting report of such a case these writers have added an able analysis of the underlying causes, together with the rational indications for treatment in this and similar cases. The patient in question was a typical one of a class, a middle-aged American gentleman, a lawyer by profession, and a member of Congress. Of neurotic ancestry and of nervous temperament, the excitement and strain of such a career as he chose, and a moderate disregard of the ordinary

laws of hygiene, was all he needed to become what he was—a constant sufferer, tormented by a great variety of aches and pains. Even in boyhood and early manhood he was a martyr to indigestion, as well as the victim of numerous acute diseases. In the full tide of his activity his business affairs were interrupted by frequent breakdowns, requiring him to discontinue work and resort to watering places and take extended journeys in the interest of his health. He suffered greatly from insomnia, nervous irritability, inability to concentrate his thoughts, pain and burning sensations in his limbs, distress after taking food, acidity, flatulence, grinding sensations in the stomach and bowels, constipation, etc. A physical examination also revealed a gaseous distension of the stomach and intestines, the presence of yeast ferments in the blood, and of phosphates and bile in the urine, which showed a specific gravity of 1,030. The treatment instituted and faithfully carried out consisted almost entirely in altering the hygienic conditions of this man's life. He was placed in the midst of healthful mental and moral surroundings. To these were added rest, freedom from all sources of irritation, baths, massage, moderate exercise, and a suitable diet, which consisted in the withdrawal of fermentable food, including all sweet, starchy and greasy articles, all fruits and vegetables, and everything containing acids. His diet was almost entirely one of animal food, composed mostly of beefsteak and the muscle pulp of beef prepared by a machine made for the purpose. Meanwhile frequent examinations were made of the patient's blood, urine and fæces. Later on, when a less restricted diet was enjoined, he was allowed to gradually add stale bread, a small quantity of milk, then a little game, and finally some vegetables. Tea, coffee and stimulants were all prohibited, and he was required to drink a pint of hot water one hour before each meal. As regarded the use of purely medicinal agents, such were administered as tended to give tone to the nervous system, stimulate the digestive organs to better action, aid the digestion of food, and induce rest to the nervous system. The particular ones chosen were cinchona, nux vomica, damiana, salicin, cascara, pepsin, bromides, and sulphonal. Under this treatment, in a single month, the patient passed from constant wretchedness to a state of entire comfort. After three months of such treatment he returned home, not cured, indeed, but on the high road to health.

It is by such thorough examinations of our patient's condition, and by such rational application of the simple remedies which, when judiciously employed, possess so great a potentiality for good, that we may hope to obtain success in the treatment of digestive disorders when once they become fairly established. But in this, as in most other diseases, the best of all treatment is the prophylaxis, and here it is the wives and daughters who are the real physicians; and it is our firm belief that until the domestic arts of the kitchen and dining-room attain a rank of dignity among the other accomplishments, until they are taught very much as music and painting are taught, it is going to fare pretty badly with all of us.

THE PHYSICIAN AND HIS JOURNALS.

There is an ever present tendency among men, in a sort of vague and misty way, to venerate the past; in a way quite egotistical to magnify the present, and also to compass the future with grandiloquent interrogations.

To the first and third counts we plead not guilty—but to the second we enter our confession, since a simple statement of facts can hardly seem to those in other lands other than most notable exhibitions of egotism. When we come to enumerate the medical practitioners in the United States, the number of our medical schools and their improved facilities for teaching, the rapid development of medical societies and the numbers of medical journals that are in demand, we submit that the parallel is not to be found in the past or present history of any nation. If any one has doubts upon this subject we commend to him the simple study of statistics. Again, there never was a time when in this and in other lands there was such an array of talent applied with utmost tension, to medical investigation. There was never a time when there was so much of original discovery, and never before such facilities for rapid advances in medical education. There never was a time when medical journalism was so enterprising as now, nor its pages so filled with valuable instruction, and there never was a time when a physician could so soon fall behind and be lost sight of as now. A single year's neglect will

render his needs conspicuous. Only the most industrious and critical readers are fully abreast of the times, and in the hour of need and of their opportunity how quickly these come to commanding prominence.

If all these facts be true, how can we do otherwise than by their simple statement magnify the present? If they be true it is obvious that to the well informed physician his journals are as essential as is his daily bread. And while making his selections, will he pardon if we make one or two suggestions.

We believe that a first duty of the medical man is to help develop, foster and sustain the medical societies and medical interest of his own locality. He has power personally to stimulate his associates and to aid them in organization and in medical progress. In the development of such local interests nothing can be so helpful as the ably conducted and well supported local medical journal. To this he owes a primary obligation, both literary and pecuniary. Its pages should be replete with the recorded experiences of local contributors while, in turn, it should garner for them the best of medical productions from all lands.

To the physician in quest of his second journal we respectfully commend the value and the claims of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. While it is National in its relations and circulation, it will seek to further his local interests. It will give a continued series of valuable original papers, prepared and submitted by the leading men of the profession, at the annual meetings of the American Medical Association. It will give prominence to translations of the best literature published in foreign languages, and copious selections from the best writings at home and abroad. It will devote itself to the dissemination of clinical instruction, and to the presentation of condensed reports of the proceedings of prominent medical societies. These, with the work of a corps of editorial writers widely representative of the American States, constitute our claim to the second place on the physician's list of medical journals, to which he should add as many others, home and foreign, as he can *thoroughly utilize*.

BUTCHER-SHOP REGULATION.—The Municipal Council of Paris has ordered that the débris of butcher-shops shall be removed before daybreak.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The fifteenth annual meeting of this Association was held in the city of Evansville, Ind., September 10, 11 and 12. The Committee of Arrangements had made ample provisions for every need and their work seemed perfect in every detail.

The meeting was one well representing the leading men of the Mississippi Valley and was conspicuous, *first*, for the absence of any excessive convivial spirit; and *secondly*, for the earnest purpose with which, from first to last, the members applied themselves to solid scientific work. Of the eighty-three papers which had been prepared for this meeting seventy-one of the writers were at hand to present them in person. Owing to the admirable tact of the presiding officer not a moment was lost. The papers followed in quick succession. The discussions which they elicited were as conspicuous for their aptness and force as were the papers themselves.

It may seem to the members of our Association in other portions of this broad land that THE JOURNAL is according undue prominence to this particular organization; in answer to which we wish simply to say, that wherever, or whenever an association shall so manifest its interest in, and its loyalty to, the American Medical Association as does this, and command within itself such elements of strength and culture, THE JOURNAL will be only too glad to recognize its claims and, as in this instance, to further its interests in every possible way.

Our regret is, that in connection with the publication of Association papers the pressure upon our columns will not permit the solicitation of a number of those there presented, for a like purpose. Our cotemporary journals, it is hoped, will afford ample and adequate facilities for their dissemination. In the present issue we give, as fully as our space will permit, an outline Report of the Proceedings.

EDITORIAL NOTES.

HOME.

THE DELAWARE HOSPITAL.—The corner stone of this hospital was laid by the Masonic Grand Lodge on the 17th ult. Dr. L. P. Bush, President of the Hospital Board, in his address said that "had the desire of the physicians of Wil-

mington been carried out there would have been a place long ago to which the sick and wounded of our city who were in need of assistance could be taken. But it is a happy event which has brought us here to-day to attempt to supply the deficiencies of the past and to help to wipe away whatever of odium may have rested upon the reputation of our city by this neglect."

The building will be ready for occupation before the close of the year. The present structure will be added to from time to time. A copy of THE JOURNAL, together with a copy of each of the local papers, the New York *Herald* and Philadelphia *Press*, were placed in the foundation stone.

NEW YORK MEDICO-LEGAL SOCIETY.—At a meeting of this Society held at the Hotel Buckingham last Wednesday the following papers were read: "The Hygiene of Interments," by Dr. C. A. F. Lindorme, of Florida; "Classification of the Varieties of Insanity," by Dr. Joseph Jones, of New Orleans, La.; "Résumé of Recent Trip to Europe," by Clark Bell, Esq.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION will hold its next session at Nashville, Tenn., November 12, 13 and 14, 1889. The preliminary programme contains a list of thirty-five papers by eminent physicians from the North and South.

DR. SAMUEL WOLFE, of Skippack, Pa., will fill the Chair of Physiology at the Medico-Chirurgical College of Philadelphia during the coming year.

APPOINTED PROFESSOR OF PATHOLOGY.—At the last meeting of the Faculty of the Medico-Chirurgical College, Philadelphia, Dr. Ernest Laplace was appointed Professor of Pathology. Professor Laplace is a native of New Orleans and a graduate of the Literary Department of the Georgetown University, D. C. After several years' study in Tulane University and the Charity Hospital he went abroad and graduated in the Faculté de Medicine de Paris, where he studied under Pasteur and Cornil. He afterward spent several months in Vienna under Billroth and Stricker, and a year in Berlin with Koch and von Bergmann. While with Koch he discovered the superior efficiency as a germicide of acid sublimate of mercury and the sulpho-carbolic acid as a disinfectant. After his return to New Orleans he instituted a Pasteur laboratory for the treatment of hydrophobia, and was elected visiting surgeon to the Charity Hospital. At the time of his call to Philadelphia he was Professor of Physiology and Hygiene in the High School Department of the Tulane University, and Demonstrator of Microscopical Anatomy and Bacteriology in the Medical Department of the same school.

HOSPITAL BEQUEST.—By reason of a bequest made by Mr. Wm. Thaw, one of the wealthy citizens of Pittsburg, the sum of one hundred thousand dollars is appropriated for the benefit of the hospitals of that city.

FOREIGN.

THE INTERNATIONAL CONGRESS of Hydrology and Climatology will open at Paris October 3, 1889. Numerous excursions to points of interest are among the features offered for this occasion.

A SCIENTIFIC MISSION.—Dr. Viault, Professor of the Medical Faculty of Bordeaux, has been charged with a mission to the high plateaus of Peru and Bolivia, where he is to continue the experiments of Paul Bert relative to rarefied air.—*Le Bulletin Médical.*

ANTISEPTIC PROPERTIES OF TOBACCO SMOKE.—Hajek, of Vienna, and Tassinari, of Pisa, have demonstrated by experiment that tobacco smoke destroys germs, and the former has found, by consulting statistics, that men who smoked were far less susceptible to infection than the remainder of the population during an epidemic of diphtheria. The *British Medical Journal* now endeavors to explain the latter fact, pointing out that the robust men who can tolerate large amounts of tobacco are the very ones who resist infection any way; it also advises non-smokers not to put their trust in the antiseptic pyridine of tobacco, and not to make themselves unwell during epidemics while attempting to habituate themselves to the use of the weed.

PHARMACY REGISTRATION IN FRANCE.—The Minister of Commerce has given notice that no pharmacist will be permitted to take his oath before reaching the age of 25 years, and in order to secure the rigid enforcement of this measure the university authorities have received orders to confer no diploma (without which young students are unable to establish themselves) until the proper age has been attained.—*Le Bulletin Médical.*

TOPICS OF THE WEEK.

THE INTERNATIONAL MEDICAL CONGRESS OF 1890.

As organizing committee of the International Medical Congress to be held in Berlin next year, Professors Virchow, von Bergmann and Waldeyer have issued the following resolutions: The Congress is to be opened on August 4 and closed on the 10th. It is to consist of diplomated physicians and surgeons who have registered themselves as members and have taken tickets of membership. The registration fee is twenty marks, and each member will receive a copy of the Transactions. The purpose of the Congress is purely scientific, and its business will be transacted in Sections. The Committee of Organization will cause the definitive officials to be elected in the first sitting of the Congress—namely: a President, three Vice-Presidents, and an indefinite number of honorary Presidents and of Secretaries. In the first sittings of the various Sections a President and a sufficient number of honorary Presidents will be elected, the latter to preside alternately with the former. Owing to the difference of language, a sufficient number of Secretaries will be appointed from among the foreign members. After the Congress the Transactions will be edited and published by an Editing Committee appointed by the presiding officials. The general sittings are intended for debates regarding the work and general relations of the Congress, and for addresses and communications of general interest. Such addresses are to be delivered only by members requested to do so by the Committee of Organization. Proposals relating to the work of the Congress must be made to the said Committee before July 1, 1890. The Committee will decide whether they shall be adopted or not. All discourses and communications in the general and in the Sectional meetings must be delivered to the Secretaries in writing before the close of the sitting. The Editing Committee will decide whether and in what compass these writings are to be printed in the Transactions. The official languages used at all meetings will be German, English and French. The by-laws and programmes will be printed in all three languages. It is permitted, however, to use another language at the meetings for brief remarks, provided that one of the members present undertakes to communicate the meaning of such remarks in one of the official languages. Introductory discourses in the Sections are to be limited, as a rule, to twenty minutes; in discussion only ten minutes are allowed to each speaker. Students of medicine and other persons of both sexes who are not physicians, but feel interested in the debates, may be invited by the President, or may receive permission to attend the sittings.

THE FOURTH INTERNATIONAL PRISON CONGRESS.

Over and above its great interest to the student of State Medicine, this Congress, which is next year to meet at St. Petersburg, will have special attractions for the Englishman. Coinciding as it does with the centenary of John Howard's death, it will be utilized for the bestowal of international honors on that noble philanthropist. The Government of the Czar, bearing in mind the fact that it was on Russian soil—at Kherson in fact—that Howard met his death in 1790, desires to show its appreciation of his philanthropic work by offering a prize for the best monograph on "The part filled by John Howard in the History of Penitentiary Reform." Competitors must write in the Russian or French language, and their work must include a biography of John Howard and a review of his publications; a characterization of penitentiaries at Howard's time, and a full list of all the innovations completed or proposed by him in these institutions; an estimate of Howard's influence on the subsequent course of penitentiary reform; and a bibliography of all his writings. Competing monographs must by May 1st (*i. e.*, according to the Russian almanac, the 15th), 1890, at latest, be in the hands of "The President of the Organizing Committee of the Fourth International Prison Congress at St. Petersburg." They must be furnished with a motto, and accompanied with a sealed letter containing the writer's name and address. The jury which will examine the monographs will be selected by the Congress itself, and it will award two medals of gold, a larger and a smaller, as well as silver medals and certificates of honorable mention. The competitor to whom shall be adjudged the larger gold medal will also receive 2000 fr. (£80), and his monograph will be inserted in the Proceedings of the Fourth Congress, while he will also have the right of reprinting it. All competing monographs, whether printed or in writing, which have not been withdrawn within two years by their authors are to be destroyed; and, lastly, the result of the Competition will be published in the Bulletin of the International Penitentiary Committee, and also in the Proceedings of the Fourth Congress. Besides the above-mentioned competition, there will be another at the instance of the conductors of the *Prison Discipline Review*. Its subject is the following: "What in the most civilized nations has been the historical development of the institutions relating to the correctional education of minors who have been convicted of crimes at common law, or who have been put in custody for idleness and vagabondage, or with a view to paternal discipline?" The conditions of the competition are identical with those of the preceding, except the following modifications. The competing monographs, in writing or in print, may be written in any language, but there must be a French translation of the same appended. The successful competitor will receive as prize the sum of 2000 francs (£80) from the conductors of the *Prison Discipline Review*. The Organizing Committee of the St. Petersburg Congress will be entitled to publish the successful monograph in the Proceedings of the Fourth Congress, while the author, will, at the same time have the right of reprinting it.—*The Lancet*.

THE INHALATION OF DUST.

DR. KUNZE, in his inaugural thesis for the M.D. degree in the University of Kiel, publishes as a contribution to the diseases caused by the inhalation of dust a series of examinations of lungs so affected. In all these dust was

found microscopically, and after chemical tests in the various anatomical and histiological parts of the lungs and in the interior of the lymphatic vessels numerous leucocytes were found covered with the dust. Being arrested in its progress, it causes inflammation producing hyperplasia of connective tissue, especially where a dense network of lymphatic vessels exists. Dr. Kunze also proved that the degree of alteration in so-called "dust lungs" depends not merely on the quantity of the dust inhaled, but also on its greater or less morphological power of injuring the tissue. He concludes from his experiments that even the greatest alterations in these lungs—such as nodes, indurations, and vomicæ—are mainly produced by the inhaled dust, and that tuberculosis is only an occasional coincidence. The least serious alterations in the lungs resulted from the inhalation of lamp-black, the particles of which are very fine and little injurious; the most serious, from dust inhaled by earthenware manufacturers and stonemasons. The lungs of a locksmith showed only a moderate hyperplasia of connective tissue, the dust consisting partly of the finest particles of iron. In a worker in oxides of iron the lungs were found full of small granules, and the morbid changes in the tissues were very considerable. The lungs of gold miners were generally indurated and atrophied; the dust in these cases is exceedingly fine. Sand produced numerous circumscribed hard nodules and thick indurations. In cloth manufacturers, the lungs, in spite of their contact with an enormous quantity of organic dust, presented but few indurations. In the lungs of two stonemasons induration and tuberculous disintegration were observed; all the other lungs were entirely free from tuberculosis of any kind, an observation which was verified by the absence of tubercle bacilli in the muco-pus in the vomicæ. —*Lancet.*

DISINFECTION.

The following practical remarks upon the important subject of disinfection are abstracted from an address delivered by FRANKLIN PARSONS, M.D., at the annual meeting of the British Medical Association at Leeds, in August, 1889:

For the disinfection of the discharges of the sick chemical agents must, as a rule, be used, though the discharges from the throat and nostrils in diphtheria and scarlatina are best received upon pieces of rag and burnt. It is of prime importance that infectious discharges should be disinfected immediately on being passed from the body, both because delay will give them more opportunity of causing mischief, and also because if the infected matter be mixed with a large quantity of other organic matters, as in a drain or privy, before the disinfectant is applied, the action of the latter will have to be exerted on a greater mass of material, and its effect will be *pro tanto* weakened; and the chances will also be great that portions of the infected material will escape its action. It is thought by some that germs of enteric fever, for instance, may long lurk unsuspected in defective drains and privies until some accidental circumstance, such as disturbance of the contents, brings them into activity, and that many of the "sporadic" cases of this disease thus arise.

Of chemical disinfectants for the disinfection of excreta, corrosive sublimate is probably the most trustworthy and suitable for ordinary use. In its use, however, three precautions have to be borne in mind: 1. It is very poisonous, and hence, in order to avoid accidents (such as frequently occur with carbolic acid), the solution should be colored, as with permanganate of potash, sulphate of copper, or aniline blue. 2. It corrodes iron and other common metals, and is instantly decomposed by contact with them; hence it must be used in non-metallic vessels. 3. It forms with albumen an inert insoluble compound, but this may be prevented by acidulating the solution. A solution suitable for disinfection of excreta, clothing, etc., is made by dissolving half an ounce of corrosive sublimate with one ounce of hydrochloric acid and five grains of aniline blue in three gallons of water.

Chloride of lime is a useful disinfectant for excreta, but too strong a solution injures clothing. Carbolic acid is especially an antiseptic, retarding putrefaction, for example, in sewage, but a 5 per cent. solution is recommended by Koch by preference for disinfecting excreta and soiled linen of cholera patients. Creolin, a substance allied to carbolic acid, is said by recent experimenters to exceed it in destructive action upon spores of bacilli, at the same time that it is not poisonous to human beings. Permanganate of potash is an excellent deodorant, and has the advantage of not being poisonous. It is also, to some extent, a true disinfectant, but its action upon infective matter is much weakened when this is mixed with a quantity of other organic matter. Green copperas (ferrous sulphate) is a cheap deodorant, but, according to Koch, is not a disinfectant proper. Its habitual use for flushing sewers in time of cholera was strongly recommended by Dr. Budd, and was said at Bristol to have produced excellent results.

With regard to the disinfection of clothing, bedding, etc., used by the sick, it may in the first place be pointed out that for such articles as will stand it, boiling in water for say five minutes is an effectual means of disinfection. And since the infectious matters are not actually incorporated with the fibres of the fabric, but merely attached as dirt to their outside, there is reason to think that even a thorough ordinary washing will be a sufficient disinfection, so far as the articles themselves are concerned; but the infectious properties are transferred to the water in which they have been washed. The dangerous properties of such water are shown by the frequency with which cholera is contracted by those who wash the linen of cholera patients, and by cases like that at Moseley, recorded by Dr. Ballard, where an outbreak of enteric fever occurred among the persons drinking the water of a well into which had percolated the soapsuds in which the soiled linen of an enteric fever patient had been washed. To avoid such risks it is necessary that infected articles which are washable should be disinfected before being washed; this should, for obvious reasons, be done immediately on their being left off. Boiling might be used for this purpose, but boiling water in sufficient

quantity is not always at hand; and again, if soiled clothes are boiled, the coagulation of albuminous matters fixes stains in them and spoils their color. Hence it is more convenient to put the clothes to steep in some chemical disinfecting solution, of which a panful should be kept in readiness. A solution of corrosive sublimate is the best for this purpose, as, besides being the most effective, it has the advantage that it does not stain or rot the linen. When the grosser dirt has been removed by rinsing in water, the articles may be boiled.

Articles which cannot be boiled in water without injury, such as cloth clothes, blankets, and beds, are best disinfected by exposure to heat, and the experiments which I have quoted show that for this purpose a steam heat is preferable to a dry heat for several reasons, especially because a lower temperature and a shorter exposure suffice to kill infective organisms, and because a steam heat penetrates much more rapidly than a dry heat into bulky and badly conducting articles. Further advantages are that in a steam apparatus the temperature is approximately equal in all parts, that it can be accurately ascertained and kept constant at any required degree for any length of time—conditions which are essential to a good apparatus, but which are very difficult to obtain where dry heat is employed. . . . .

As regards disinfection of food, no one would, I presume, willingly eat or drink articles that he knew to be infected. As, however, one cannot always guarantee the absence of infection in the viands we eat or the water or milk that we drink, it is satisfactory to know that boiling or thorough cooking may be trusted to secure complete disinfection. In the experiments I have quoted it was found that even the very refractory spore-bearing bacilli of anthrax were destroyed by one minute's boiling in water at 212° F., though certain non-pathogenic bacilli found in vegetables and milk require for sterilization a higher temperature or more prolonged boiling, a fact familiar to the housekeeper who makes jam. It is, doubtless, owing to the efficiency of cooking as a disinfectant that sanitarians in France and Germany, where milk is, I believe, always boiled before use, are sceptical as to the possibility of the propagation of infectious disease by that medium; whereas with us in England, where milk is drunk raw, epidemics of milk origin are a matter of almost everyday experience. On the other hand, trichinosis, so common among the Germans, who eat their ham raw, that it has to be guarded against by an elaborate system of microscopic examination of all slaughtered swine, is practically unknown as a human disease in England and France, where meat is always cooked. . . . .

For house disinfection, fumigation with sulphurous acid or chlorine gas, the latter preferred, followed by thorough cleansing and scrubbing, removal of wall-paper and lime-washing, are to be recommended; but these processes, to be effectual, need to be carried out with more thoroughness than is frequently done. A difficulty often met with is to know where the inmates are to go while the house is being disinfected; and it would be useful for this and other purposes if sanitary authorities had power to provide refuges for people whom, although not themselves sick, it might be desirable to remove from their homes.—*British Medical Journal.*

SOCIETY PROCEEDINGS.

Mississippi Valley Medical Association.

Fifteenth Annual Meeting, held at Evansville, Indiana, September 10, 11 and 12, 1889.

First Day—Morning Session.

The President, Dr. Geo. J. Cook, of Indianapolis, Ind., in the chair.

After the usual address of welcome the President made a few remarks, saying that on account of the large number of papers on the programme he would not present the usual Presidential Address.

The first paper presented was by Dr. G. V. Woolen, of Indianapolis, on

NASAL DIFFERENTIATION.

The author arrived at the following conclusions:

1. The nares should not be regarded as a whole in relation to etiological factors.

2. Their correct interpretation must be with regard to their anatomical and pathological characters.

3. The regions of the inferior turbinates are the seats of hypertrophies which are the essential pathological factors of hay fever.

4. The posterior tips of the inferior, and frequently middle turbinate are likewise the seat of hypertrophies which are the essential pathological factors of asthma and its congener.

5. That this is true primarily because the sensory apparatus of these parts is essentially distinct.

6. These products do not become factors in hay fever and asthma except there be a special dyscrasia.

7. Other reputed causes of asthma are associated products of hypertrophic disease of the nares and may have led to confusion as to cause, and may possibly have been reported prematurely, if hypertrophy were not removed.

8. The anterior tips of the middle turbinate are the seat of hypertrophic disease which produces much nerve disturbance which is attributed to various other causes.

9. By pressure of these hypertrophies on the nasal nerves we get the chief results in neuralgias in the region of distribution of the first division of the fifth pair of cranial nerves, and by obstruction of the orifices of ducts of anterior ethmoidal cells and frontal sinuses this is greatly intensified.

10. Thorough removal of these hypertrophic products is the only radical cure for these various affections.

In the discussion that followed Dr. Wm. Porter thought that clinically there were exceptions to the conclusions arrived at in the paper.

Dr. Dudley S. Reynolds said that many persons had hypertrophy of the turbinated bones

without asthma, and in many cases of asthma the excision of the hypertrophied tissue did not relieve the asthma. To say that any case of asthma or hay fever is caused by hypertrophy of the turbinated bones he considered an error.

DR. WOOLEN in closing the discussion said that in every case his theory had been found correct. It is not the *magnitude* of the hypertrophy but the fact that hypertrophy exists, that causes the disorders, and the thorough removal of every portion of the hypertrophic tissue was in every instance followed by complete recovery.

DR. J. M. MATHEWS, of Louisville, read a paper on

A SIMPLER METHOD OF TREATING FISTULA IN ANO,

and showed a fistulatome, a new instrument of his own invention, for use in certain cases where patients would not submit to operation by the knife. The instrument is used to dilate and straighten fistulous tracts, and carries a concealed knife which can be used if necessary.

DR. MURDOCK thought that but for a small and very select class of cases the instrument and method of treatment would be of little avail. The fact that the sphincter could not be put to rest was the chief objection to all non-cutting methods. If the sphincter can be divided and thorough drainage secured fistulous tracts heal as readily as any other.

DR. GRANT, of Louisville, thought that the use of ligatures was to be condemned, and in but few cases would the method of treatment of Dr. Mathews be of practical benefit on account of the lack of perfect drainage.

DR. WATHEN, of Louisville, differed in opinion as to the cause of non-union of fistulous tracts, viz.: the contraction of the sphincters. This is probably the cause of irritation, but certainly does not prevent union. The important point of securing primary union can almost always be secured by using the deep buried animal sutures, the same as the deep perineal suture. If the sphincter is thoroughly divulsed no division of the sphincter will be necessary in many cases. The pyogenic membrane must be dissected out and the parts thoroughly brought together, and primary union will occur.

DR. ARCH. DIXON, of Henderson, Ky., believed that the method of Dr. Mathews could not be compared with the advantages to be gained by the thorough use of the knife. The knife is the only radical cure.

DR. J. M. MATHEWS in closing the discussion agreed with the expressed opinion that the use of the knife constituted the best method of treatment, but there are many cases where the patient will not submit to the knife, and for those cases the method of dilatation and drainage had proved beneficial in many cases.

On motion the Society adjourned to 2 P.M.

AFTERNOON SESSION.

DR. A. S. BARNES, of St. Louis, read a paper on

THE ACCOUCHEUR AND HIS FORCEPS.

The author advocated the more frequent use of the forceps in difficult or delayed labor, believing that by their use the comfort of the mother and safety of the child are promoted. He never uses ergot after delivery and disapproved of the use of anæsthetics in labor.

In the discussion DR. W. H. WATHEN, of Louisville, asked as to the percentage of stillborn children in forceps cases. He had tried in vain to secure statistics on the subject. He believed that the statistics of Cæsarean section (93 per cent. of living children) were as good as those of forceps delivery.

DR. BELL said that there were two indications for interference with forceps, the danger to the mother and the danger to the child. The danger to the child can always be determined by the location of the fœtal heart sounds. Real danger to the child should be the rule in every case for the use of forceps.

DR. MURDOCK, of Pittsburg, Pa., believed that forceps had contributed very much to the lessening of the pains of labor. Every physician should use them more frequently; even for his own comfort their use was justifiable.

DR. DIXON, of Henderson, Ky., thought that the number of cases reported, 128 per year for thirty-five years, was remarkable, and that the conclusions should be of value as to the statistics of stillborn children.

DR. BARNES in closing the discussion said that the use of chloroform complicated labor, that both the long and short forceps should be a part of the obstetrical armamentarium of every obstetrician, as by the use of the short forceps in many cases the woman could be delivered without change of position.

DR. B. MERRILL RICKETTS, of Cincinnati, read a paper on

PLASTO-COSMETICS IN SURGERY OF THE FACE,

in which he made three classifications: 1. Removal of malignant growths. 2. Correction of deformity due to the loss of parts from either congenital or traumatic causes, or from previous operations, or diseases of any kind, including pug nose and ptosis. 3. The removal of nævi, warts, moles, hairs, pigmentary deposits, cicatrices, alveola fistulæ, enlarged glands, or anything abnormal, other than malignant growths, that may appear on the face or neck. He spoke of the different operations now resorted to to correct the various kinds of deformity such as are indicated in this classification, such as thick lips, ears, lids, and alæ, the grafting of cartilage, skin and bone, electrolysis, the natural chlorides, and the substitution of various kinds of tissue.

The paper was discussed by Drs. I. N. Bloom, of Louisville, Ky., and G. H. Rohé, of Baltimore.

Dr. S. E. Mumford, of Princeton, Ind., read a paper on

PERINEORRHAPHY—ITS IMMEDIATE OPERATION,

in which the advantages of the early operation, not later than twenty-four to thirty-six hours after delivery, were clearly set forth.

Dr. L. Worsham, of Evansville, believed that the immediate operation was of decided advantage in the majority of cases.

Dr. Joseph Eastman, of Indianapolis, said there were at times conditions present which are impossible to operate immediately with success.

Dr. Bell thought that in conditions of uræmia, œdema and the like, immediate operation for restoration of the perineum was not advisable. In his opinion the most frequent cause of laceration of the perineum was not the head, but the shoulder.

Dr. W. H. Wathen, of Louisville, believed that it was impossible for anyone to do a large obstetric practice without occasional ruptures of the perineum. He believed that the efforts to prevent rupture had been the cause of more ruptures than it had prevented. He advised in cases of complete rupture the use of the kangaroo tendon sutures.

Dr. I. N. Love, of St. Louis, read a paper on

ANTIPYRETICS, ANALGESICS, AND SEDATIVES,

referring especially to antipyrin, antifebrin, and exalgin, as the most recent additions to the list. He prefers acetanilid (antifebrin) to antipyrin, and had most happy results from the use of exalgin.

Dr. Mumford warned physicians against the use of antipyrin in the continued fevers, believing that its continuous administration was detrimental.

Dr. Smythe, of Greencastle, Ind., insisted on the necessity of the high temperature being controlled by antipyrin, or some similar agent, to prevent fatty and parenchymatous degeneration taking place as a result of high temperature. He believed that the continued use of acetanilid and similar agents in continued fevers was detrimental to the patient.

Dr. E. Linthicum, of Evansville, had had an unfavorable experience with exalgin, believing it inferior to the other agents of its class.

Dr. J. H. Hollister, of Chicago, had had occasion to regret the use of antipyrin in decided pyrexia. He had used acetanilid and quinine with decided benefit.

Dr. J. L. Gray, of Chicago, had used acetanilid in epilepsy with decided benefit, and believes it superior to the bromides in the majority of cases.

Dr. Dudley Reynolds, of Louisville, believed that the use of agents which merely reduce temperature was not a scientific treatment of disease, and their influence on mortality was not marked.

On motion, the Association adjourned to 9 A.M. Wednesday.

SECOND DAY—MORNING SESSION.

The first paper was by Dr. W. C. Chapman, of Toledo, Ohio, on *Prognosis in Pulmonary Diseases*; Dr. C. F. McGahan, of Chattanooga, Tenn., followed with a paper on *Treatment of Pulmonary Phthisis*; Dr. F. C. Wilson, of Louisville, read a paper on *Differential Respiration*, exhibiting a new apparatus for systematic lung exercise; Dr. Edwin Ricketts, of Cincinnati, reported a case of *Tubercular Peritonitis with Tubercular Fallopian Tubes*; and Dr. Wm. Porter, of St. Louis, read a paper on *Contagiousness of Tuberculosis*.

The first paper, that of Dr. Chapman, was a plea for more energetic treatment of the disease as a local disease, believing that thereby a more favorable prognosis was possible. Dr. McGahan believes that the climatic treatment of phthisis offers the best results, that every case of phthisis should, upon the discovery of the disease be removed from the locality in which it developed. The climate of South Carolina is best adapted to such cases. Dr. Porter believes that the latest opinions uphold the theory of the contagiousness of tuberculosis.

Dr. Ricketts cited 100 cases of tubercular peritonitis that had been treated by abdominal incision where 25 cures, from nine months to twenty-five years, had taken place, claiming that enough operative evidence has been given to positively assert that lives have been prolonged, and suffering greatly relieved, and that bolder and prompter surgical measures are justifiable. The Doctor's case presented for consideration: 1. Failure to diagnose the trouble previous to abdominal incision. 2. The lowering of pulse and temperature as a result of the operation. 3. The non-recurrence of dropsical fluid. 4. Fragile condition of tubal tissue and proneness to bleeding upon the slightest abrasion. 5. Good results obtained (hæmostatic) in the application of perchloride of iron.

Discussion was had upon all the papers bearing on the subject.

Dr. Theodore Potter, of Indianapolis, said that the disease is not commonly hereditary; it is a local disease and only accidentally becomes a general disease. He believed that a child never emerged from its mother's womb with tuberculosis. Statistics are very unreliable as to heredity and are easily misinterpreted.

Dr. Woolen, of Indianapolis, said that until the question of heredity was settled no conclusion could be arrived at. Can disease be hereditary? Most emphatically, no. But there is a type of constitution which may be transmitted. This

vulnerability of constitution may be hereditary, but to presuppose that a germ of disease can be transmitted through the spermatozoa or ovum through fœtal life is entirely unreasonable.

DR. DUDLEY REYNOLDS, of Louisville, believes that the choicest food for the development of the bacillus is the lymph corpuscle. The inhalation of the bacillus through the imperfect air passages carries the disease to the lungs.

DR. JOSEPH EASTMAN, of Indianapolis, thinks the most important treatment is the improvement of the vital forces. Latent syphilis is the cause of many cases of tubercular peritonitis.

DR. J. A. LARRABEE, of Louisville, said that the predisposing and the exciting cause must be present in every case. As to the theory of micro-organisms, they are present everywhere. They are not essentially the disease. He does not believe it is a case of tuberculosis unless the bacilli are present. The matter of lung exercise is of the greatest importance, giving, as it does, apex expansion.

DR. CHAPMAN said that the question of heredity was not one of transmission of disease, but of constitution. This is proved by the fact that the disorder skips one generation frequently.

DR. MCGAHAN said that he did not believe in heredity in consumption.

DR. PORTER said that he did not believe that the direct inheritance of tuberculosis was proven. Chest exercise is of the greatest importance. Good tissue is the best antidote to the bacillus.

DR. L. BAUER, of St. Louis, read a paper on *Recto-Vesical Lithotomy*, after which the Association adjourned to 2 P.M.

AFTERNOON SESSION.

DR. A. B. SHAW, of St. Louis, read a paper on

SUSPENSION IN AFFECTIONS OF THE SPINAL CORD,

and exhibited a Suspension Apparatus which he has devised. The apparatus is a modification of the Sayre and Varity apparatus.

DR. LEWIS, of Kansas City, had seen many suspensions at Hot Springs, Ark., and had himself undergone the treatment with beneficial results.

DR. RYAN, of Cincinnati, did not believe that any stretching of the cord took place.

DR. VANCE, of Louisville, thought that any stretching which might occur would be ligamentous, that the cord could hardly be affected.

DR. SHAW, in closing the discussion, said that in cases of locomotor ataxia, certain cases of cerebro-spinal sclerosis, and old cases of myelitis were benefited by the treatment. Paralysis agitans was not benefited.

DR. H. C. DALTON, of St. Louis, read a paper on the subject

IS SENN'S HYDROGEN GAS TEST INFALLIBLE?

He reported several cases in which the gas test failed, and one in particular, of a Chinaman with bullet wounds of the stomach, in which the stomach was partially filled with rice and the inflation by gas simply plugged the bullet holes in the stomach and prevented the effectiveness of the test.

DR. EASTMAN said that he had used the sulphuretted hydrogen gas in preference to the ordinary hydrogen, as its odor was more persistent and seemed to better answer the demands. He had had a number of failures of the gas to ignite.

DR. H. O. PANTZER, of Indianapolis, read a paper on

RUPTURE OF OVARIAN CYST,

with report of a case in which death occurred before operative interference was had. A pedicle was found, post-mortem, which was twisted to the left. A diagnosis of twisted pedicle was made ante-mortem.

DR. A. M. CARTLEGE, of Louisville, presented a paper on *A Case of Ovarian Tumor*.

In the discussion that followed the two papers DR. EASTMAN said that he had seen the twisted pedicle case before death, in consultation, and considered the diagnosis one of extreme difficulty.

DR. RICKETTS said that the matter of twisted pedicle was to be explained by the fact that before the tumor became adherent there was pressure upon the colon, and in the passage of feces the tumor was gradually turned to the left, and thus the pedicle became adherent. This can occur only where the pedicle is long. Senn's test he found faulty frequently. Then the distension of the intestines by the gas and their replacement was a matter of great difficulty.

DR. VANCE, of Louisville, endorsed the views of Dr. Dalton as to the unreliability of the gas test.

DR. STEELE said that he had a case in which the gas test was applied. It would not ignite. The patient asked to have laparotomy performed. It was done, and eleven holes were found in the small intestines.

DR. BRANSFORD LEWIS, of St. Louis, read a paper on the *Rational Treatment of Gonorrhœa*, which was followed by a paper on *Excision of the Knee for Convenience*, by DR. AP. MORGAN VANCE, of Louisville. DR. G. W. RYAN, of Cincinnati, presented a paper on *Orthopædics in Infantile Paralysis*, after which the Association adjourned to 9 A.M. Thursday.

THIRD DAY.

The Committee on Nominations reported the following officers for the ensuing year: President, Dr. J. M. Mathews, Louisville, Ky.; 1st Vice-President, Dr. C. R. Early, Ridgway, Penna.; 2nd Vice-President, Dr. T. B. Harvey, Indianapolis,

Ind.; Secretary, Dr. E. S. McKee, Cincinnati, O.; Treasurer, Dr. F. McGahan, Chattanooga, Tenn.

The next meeting will be held in Louisville, Ky., the second Tuesday in September, 1890.

Papers were read by DR. A. J. THOMAS, of Indianapolis, on *The Insane of Indiana—their Care and Treatment;* by DR. D. A. THOMPSON, of Indianapolis, Ind., on *Some Forms of Eye Trouble;* by DR. S. S. BISHOP, of Chicago, on *The Abortive Treatment of Acute Naso-Pharyngeal Catarrh;* by DR. O. EVERTS, of Cincinnati, on *The Treatment of the Insane as Related to Other Conditions of Society;* by DR. G. F. LYDSTON, of Chicago, on *Apparent Concretions, Transformations of Syphiloma of the Tongue.*

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Professor Peter on the Necessity of Antiphlogistic Treatment at the Onset of Acute Pneumonia and Acute Pleurisy—Professor Lépine reports a Curious Case of Cerebral Accidents determined by a Hæmatoma and Cured by Trephining—Dr. Constantin Paul's Researches on the Action of Saccharin—Dr. Maurice Perrin.

Professor Peter lately delivered a very interesting clinical lecture at the Necker Hospital, on the necessity of the antiphlogistic treatment at the onset of acute pneumonia and acute pleurisy. The lecturer said that he was induced to take up this subject owing to the neglect, now-a-days, of this precious measure in properly selected cases. If, he said, our predecessors bled to much, we have gone to the opposite extreme, much to the prejudice of the patients. He based his present lecture on a case in his ward in which the patient was affected with pleurisy accompanied with effusion, for which he was, for the fourth time, being tapped. This might have been obviated if the antiphlogistic treatment had been adopted at the commencement. Professor Peter is one of the few physicians of the Paris Faculty who employ the antiphlogistic treatment in these and other cases in which it was formerly adopted, but it is owing to the divers theories where bacteriology plays a preponderating rôle, it has been wrongfully abandoned. By antiphlogistic medication the lecturer not only referred to drugs, but included bleeding, cupping after scarifications, leeches and blisters, the latter being applied in a later stage of the acute inflammatory affections. He cited the teachings and practice of such men as Andral, Bouillaud and Grisolle in support of his own practice, although he must admit that Bouillaud, by his exaggeration of this treatment, did much harm both to the cause that he advocated and to the patients, a reaction in the profession was produced, and the antiphlogistic method fell into disuse. The introduction of bacteriology has struck the last blow to this mode of treatment. At the present moment, pneumonia is considered a microbian malady. The consequence is, one sees only this microbe, which it is necessary to kill, whence the idea of practicing injections into the lungs; but it was scarcely possible, in all the cases, to reach in this way the microbes. It is sufficient, in leaving only a few, for a rapid multiplying of the microbes to take place. This system was soon abandoned; but the misfortune is that these theories do not lead to any useful medication. Professor Peter concluded his lecture by repeating his injunction of slight depletion in all cases of acute pleurisy. If phlebotomy is objected to, scarifications followed by cupping glasses may be employed, or a few leeches to the number of from six to ten may be applied, and thus prevent effusions, or the malady becoming chronic. In the same way, he finds that when pneumonia is treated in a proper manner, cures rapidly. He believes that cases of chronic pneumonia have become more frequent since the abandonment of the antiphlogistic method.

Professor Lépine, of Lyons, lately reported to the Academy of Medicine a curious case of cerebral accidents determined by a hæmatoma and cured by trephining. The patient was a man of 29 years of age, alcoholic, and for five years he was subject to epileptiform fits which were attributed to a fall. He soon got into a comatose state which was followed by complete aphasia and slight hemiplegia of the right side. Trephining was decided upon, as the state of the patient was not improving. The operation was performed ten days after the accident, about the level of the ridge of Rolando. At the moment when the dura mater was incised, about 25 grams of liquid of a chocolate color spouted out with some force. On the next day, the patient was able to write his name, and in a few days later the aphasia and the hemiplegia disappeared. But notwithstanding the success of the operation in this case, Dr. Lépine is of opinion that it should be practiced with great prudence and reserve.

Dr. Constantin Paul has lately made some new researches on the action of saccharin. It results from his new experiments that the antiseptic power of saccharin diminishes by the addition of alkalies. The maximum antiseptic effects are obtained when the saccharin is directly incorporated in a state of powder in the nutritive medium, the latter being in general sufficiently alkaline to dissolve the saccharin. The therapeutic consequences of these facts are as follows: When it is wished to employ saccharin as a sweetening substance, an equal proportion of the bicarbonate of soda should be added to it, and then there would be no fear of the gastric troubles sometimes com-

plained of by certain diabetic subjects. The saccharinate of soda may be administered to the extent of 5 grams. Should, on the contrary, a strong antiseptic action be required, pure saccharin in powder should be employed. If, however, it is intended for the microbe of putrefaction or of suppuration, the proportion of 2 parts of the bicarbonate of soda with 3 of saccharin, renders the saccharin very soluble and permits it to arrest the development not only of these two microbes, but of all the numerous microbes which live in the mouth and possess the property of fluidifying gelatin. Saccharin rendered soluble in these proportions constitutes a valuable mouth-wash.

Military Surgery has just sustained a great loss in the person of one of its most illustrious representatives, Dr. Maurice Perrin, who died at Vezelise, his native town, on the 31st of August, last, after a very short illness. He was Inspector-General of Military Hospitals, President of the Academy of Medicine, and Commander of the Legion of Honor. Born on the 13th of April, 1826, after having prosecuted his studies at Nancy, he came to Paris in 1851, and took his degree of Doctor of Medicine. In 1858 he was appointed, after competition, Agrégé of Val-de-Grâce; and ten years after he was elected Professor of Operative Surgery. His most remarkable works consist in his studies of the psycho-chemical action of anæsthetic substances, on the rôle of alcohol and of anæsthetics in the organism, Treatise of Surgical Anæsthesia, Treatise of Ophthalmoscopy and Optometry. He was elected Member of the Academy of Medicine in 1875, and raised to the Presidency in 1889. A. B.

DOMESTIC CORRESPONDENCE.

A Tribute to Dr. Samuel Jackson.

To the Editor:—The writer, who in the winter of 1862–3 attended the last course of lectures that Dr. Samuel Jackson delivered at the medical department of the University of Pennsylvania, remembers that distinguished lecturer well, and recalls with what feeling he delivered his farewell address to the medical students of the class in the spring of 1863, when he forever bade farewell as a lecturer and retired from the chair of physiology. The tears ran down over his cheeks while he was speaking, and there were few dry eyes in the building. The decrepitude of age had crept upon him in the many years he had lectured in the university. He had lost the use of his lower extremities, so that he had to be carried to and from the chair from which he lectured. His hair was gray and his face wrinkled, but he was still lucid and fluent in his delivery. He had been Henry Clay's physician, and in his discourse upon death, in the the lecture-room, told the story of how timid that great man expressed himself as being as to the pains of physical death. Dr. Jackson endeavored to soothe the mind of the great orator by saying that death takes place by such easy and gradual processes that it was entirely void of pain. He compared death with the going out of the flame of a candle that was burning in the room at the time, and which was flickering out for want of combustible material. He said: "Mr. Clay, you see how easily and slowly that flame is being extinguished; so it will be with you when dying—easy, gradual, painless."

In a visit I made to Dr. Jackson in the summer of 1865 he said to me: "I have always, during life, been a hard student, and one of the problems I have been unable to solve yet is how much inflammable matter in a given time the sun used in warming that space included in the solar system." But he stated further that, if unable to solve the problem in this life, in the next life, to which he was fast hastening, he hoped to be enabled to solve the problem, then and there.

At a speech that Dr. Samuel Jackson delivered at a reception given to Edwin Forrest at Philadelphia, Pa., in 1838, one who was present and heard the great speeches of the evening said: "The speech of Dr. Samuel Jackson was by all odds the gem of the evening. His diction was of the best, and a constant stream of eloquence bubbled from his lips. He appeared to be of imagination all compact, and his fancy seemed to be as free and boundless as the chainless wind. Striking figures and beautiful metaphors came at his call as readily as though he wielded the wand of the magician. His words, expressing the most beautiful thoughts, fell from his lips with the grace and readiness of water sparkling from a fountain. He spoke with great ease and rapidity, and to the then immature and inexperienced mind of the writer it was the most brilliant and eloquent speech. He has since heard the deathless three of America, Clay, Calhoun and Webster. He has listened with delight to George McDuffee, William C. Preston, John J. Crittendon, George Poindexter, Jefferson Davis and Edward Everett. He has hung enraptured many times over his utterances while that marvelous child of genius, Sergeant S. Prentiss, poured forth a stream of impassioned eloquence as resistless as the rush of the mighty river he loved so well, and on the margin of which he had his home. That imperial river, not inaptly termed "a great inland sea" by Mr. Calhoun, now flows by his grave; and its turbid billows, as they roll in solemn grandeur to the ocean, murmur an eternal requiem to the memory of the most eloquent orator of modern times, or, in my judgment, of any known period of the world's history. And yet,

having often listened to the great masters of eloquence whom I have named, the speech of Dr. Samuel Jackson, heard more than half a century since, still lingers in my memory, not only as a "thing of beauty," but "a joy forever."

JOHN M. BATTEN.

309 Fifth ave., Pittsburgh, Pa., August 9, 1889.

Audi Alteram Partem.

To the Editor:—The making of punctures, exploratory and otherwise, through terebrated, instead of trephine openings, as described by Dr. Edmond Souchon, and referred to in your editorial of September 7th, is not new in any sense. It was carried out by me and its results described several years ago.[1] I have never claimed originality for it, as Gibier, if I remember rightly, employed terebration ten years ago, in the course of some inoculation experiments involving the brain. The apparatus used by me was an ordinary watchmaker's drill.

Respectfully yours,

E. C. SPITZKA, M.D.

712 Lexington Ave., New York, Sept. 7, 1889.

BOOK REVIEWS.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR 1888. Vol. v. Edited for the Association by ALFRED LUDLOW CARROLL, M.D., of Richmond County. New York: J. H. Vail & Co., 1889. Pp. viii–610.

This is a volume of far more than ordinary interest, and we feel like congratulating the Association on the superior character of the work done and on the excellence with which the editor has performed his part. More than forty papers were presented at the meeting in question, and it is not too much to say that all are of a highly meritorious character. Of especial interest are the discussions of various important subjects in which the leading topics are considered *seriatim*, as for example the "Discussion on Puerperal Septicæmia." In this the "Introductory Remarks" were made by Dr. C. C. Frederick; then followed a series of six leading questions, some of them particularly comprehensive in character. Each of these questions formed the text of one or more short papers, in which the writers confined themselves closely to the immediate question under consideration; in this discussion the papers were read by Drs. H. M. Biggs, E. D. Ferguson, S. B. W. McLeod, A. L. Carroll, F. W. Ross, John Shrady, W. H. Robb, Frank Grauer, William T. Lusk and R. L. Banta.

[1] "On Some Points Regarding Therapeutical and Other Injuries of the Brain," Proceedings American Neurological Association, 1887. Journal of Nervous and Mental Diseases; also, Journal of Comparative Medicine, July, 1886.

The New York State Medical Association was founded in 1884, and has thus far been presided over by such distinguished men as Henry D. Didama, John P. Gray, E. M. Moore, Isaac E. Taylor, John Cronyn and William T. Lusk. The membership has already reached the large figure of 681. It comprises five branch associations in the various sections of the State, between which the membership is pretty evenly divided.

NECROLOGY.

Alexander T. Darrah, M.D.

DR. ALEXANDER T. DARRAH, of Bloomington, Ill., died at his home on September 4, 1889, after a short illness caused by congestion of the bowels. Dr. Darrah was born in Delaware, Ohio, in 1837, was graduated from Rush Medical College, Chicago and practiced medicine in Tolono, Ill., until 1883, when he removed to Bloomington. He enjoyed a deservedly high reputation as a physician and public spirited citizen. He was also very prominent in the Masonic fraternity, having been elected Grand Master of Illinois in 1886 and 1887. A wife and three children survive him.

MISCELLANY.

EDISON'S IMPRESSIONS OF PARIS.—A correspondent of the *Scientific American* asked Edison: "How are you impressed with Paris?" "Oh, I am dazed. My head's all in a muddle, and I reckon it will take me at least a year to recover my senses. I wish now that I had come over in my laboratory blouse, and could have gone about unknown and have seen something. The exhibition is immense, larger than our Philadelphia exhibition. So far, however, I have seen but very little of it. This morning, however, I saw a tool which will save me $6,000, clear, a year. It is a chisel worked by hydraulic pressure. I just saw it, passing by—just a glance. I shall order some, and send them out. They will enable us to reduce our labor by eighteen hands. What has struck me so far chiefly is the absolute laziness of everybody over here. When do these people work? What do they work at? I have not seen a cartload of goods since I came to Paris. People here seem to have established an elaborate system of loafing. Some of these engineers who come to see me, fashionably dressed, walking-stick in hand—when do they work? I don't understand it at all."

THE MCLEAN COUNTY (ILL.) MEDICAL SOCIETY met at the office of Drs. Darrah & Corley on the 2d inst. There were present Drs. H. Parkhurst, F. J. Parkhurst, J. B. Taylor, F. W. Keyes, C. C. Sater, L. E. Spear, John Little, J. L. White, C. J. Corley, Rhoda Galloway, E. Mammen, S. T. Anderson, D. A. White, W. R. Shinn, N. F. Jordan, F. C. Vandervort. Drs. H. F. Ballard and W. L. Hallam were elected to membership. The application of Dr. C. E. Ballard, of Saybrook, for membership, was received and referred to the Board of Censors. Dr. E. Mammen exhibited with the microscope a piece of epithelioma; Dr. J. B. Taylor read a very able and interest-

ing essay on "The Faults of the Medical Profession." Dr. C. J. Corley's essay on "Urinalysis" was attentively listened to by all present. A vote of thanks was tendered by the Society to Drs. Taylor and Corley for the excellence of their papers. The President appointed Drs. D. A. White and F. J. Parkhurst as essayists for the October meeting, and Drs. W. R. Shinn and E. Mammen for the November meeting. The Society adjourned to meet on the first Monday in October.

THE PROFESSIONAL CANVASSER No. 3 is a thirty-two pages pamphlet combining a price list of the scientific medical periodicals of the United States and a concise consideration of the subject, "What can be done with old books?" Applicants for copies are solicited to remit six cents to cover costs of postage, etc. Address all communications to Fred. D. Van Horen, 23 Clinton Place, New York.

SENILE MICROBIO-MANIA.—The *Revue de Thérapeutic* says: A savant of Naples, Dr. Malinconico, has made a greater discovery than the famous elixir of youth of Brown-Séquard. The journals announce very seriously that Dr. Malinconico is about to discover the *microbe of old age*.

This microbe is transmitted, according to the Italian savant, by inheritance, invades with age the entire human organism, ravages and destroys it, producing old age, and finally death.

Dr. Malinconico hopes that he will be able to discover the means to combat, and finally to destroy, this terrible microbe, which will prevent men growing old. The savants are invaluable!—*Times and Register*.

PROGRESS OF SANITATION.—There are now thirty-nine crematories in various parts of the world. Italy leads easily with twenty-three, then comes America with ten, while England, Germany, France, Switzerland, Denmark and Sweden are satisfied so far with one apiece. In Italy there were two cremations in 1877; the number rose to fifteen in 1877, and in 1878 the number was 226. Since 1876, 1,177 cremations have taken place in Italy, whilst the combined numbers from other countries bring the total only to 1,269.

QUERIES WANTED.—At the San Francisco meeting of the American Pharmaceutical Association a resolution was passed requesting the members to propose such queries as they would like to see answered next year. Such queries should be forwarded at once to the chairman of the Section on scientific papers, H. M. Whelpley, St. Louis, Mo. Members who have decided to write papers should send the titles to the same address.

NEW YORK STATE MEDICAL ASSOCIATION.—The sixth annual meeting of this Association will be held at the Hotel Brunswick, New York, commencing next Wednesday and continuing three days. The programme contains a list of sixty-six papers, the writers of which are eminent and well-known members of the profession. The membership now numbers over 680 physicians and we have no doubt there will be a full attendance and a large accession of new members. Dr. J. G. Truax, 17 East 127th St., New York City, is the Secretary.

HEALTH IN MICHIGAN.—For the month of August, 1889, compared with the preceding month, the reports indicate that cholera morbus, dysentery, cholera infantum, diarrhœa, and typho-malarial fever increased, and that rheumatism, neuralgia and inflammation of kidney decreased in prevalence.

Compared with the preceding month, the temperature in the month of August, 1889, was higher, the absolute and relative humidity were less, and the day and night ozone were more.

Compared with the average for the month of August in the three years, 1886–88, bronchitis, cholera morbus and tonsillitis increased, and neuralgia and rheumatism were less prevalent in August, 1889.

For the month of August, 1889, compared with the average of corresponding months in the three years 1886–'88, the temperature was slightly higher, the absolute and relative humidity were less, and the day and night ozone were more,

Including reports by regular observers and others, diphtheria was reported present in Michigan in the month of August, 1889, at 21 places, scarlet fever at 18 places, typhoid fever at 40 places, and measles at 7 places.

Reports from all sources show diphtheria to have been reported in 5 places less, scarlet fever at 12 places less, typhoid fever at 22 places more, and measles at 6 places less than in the preceding month.

LETTERS RECEIVED.

Dr. W. H. Atkinson, New York; Dr. W. K. Sutherlin, Mansfield, Ia.; Prof. Schnitzler, Iosefstadt, Vienna, Austria; Dr. Thos. Eliot, Worth, Tex.; Dr. E. E. Montgomery, Philadelphia; Dr. C. H. Cook, Natick, Mass.; Dr. Frank H. Ingram, Chicago; Dr. Henry O. Marcy, Boston; Dr. John B. Hamilton, Washington; Dr. W. A. Scott, Swanton, O.; Dr. William H. Morrison, Philadelphia; Dr. H. Judd, Galesburg, Ill.; Dr. J. G. Truax, New York; Merchants' Exchange National Bank, New York; Dr. Henry H. Smith, Philadelphia; Dr. James Grundy, Macleod, Pa.; Dr. R. J. Dunglison, Philadelphia; Dr. G. Eiskamp, Richmond, Ia.; Dr. C. W. Richardson, Washington; Dr. B. Chapman, Copley, O.; Dr. D. D. Bramble, Cincinnati, O.; E. Steiger & Co., New York; Dr. J. M. Dunham, Columbus, O.; Dr. Walter Channing, Brookline, Mass.; Dr. Richard J. Forster, Charlestown, Mass.; E. Merck, New York; Dr. Wm. L. Worcester, Little Rock, Ark.; Dr. E. S. Everett, Wichita, Kan.; Dr. Bransford Lewis, St. Louis, Mo.; Dr. Landon B. Edwards, Richmond, Va.; Dr. M. E. Connell, Wauwatosa, Wis.; Dr. A. B. Judson, New York; Dr. Geo. Mackie, Dryden, Texas; Dr. O. M. Bourland, Van Buren, Ark.; Dr. C. Armstrong, Carrollton, Ill.; Dr. W. E. H. Morse, Dallas Centre, Ia.; Dr. Frank D. Green, Louisville, Ky.. E. White, Chesterton, Ind.; Oneida Springs Co., Utica, N. Y.; Dr. Jonathan Wright, Brooklyn, N. Y.; Dr. C. Kennedy, Macleod, Northwest Territory, Canada; Dr. C. O. Cooley, Madelia, Minn.; Dr. E. P. Brewer, Norwich, Conn.; Dr. Wm. B. Atkinson, Philadelphia; Plympton Mfg. Co., Hartford, Conn.; Dr. J. Solis-Cohen, Philadelphia; Dr. J. D. S. Davis, Birmingham, Ala.; J. Walter Thompson, New York; Dr. Allison Maxwell, Indianapolis, Ind.; Henry Bernd & Co., St. Louis, Mo.; Dr. J. M. Bessey, Manitou Springs, Col.; Dr. Alex. Boggs, Paris, France; Lloyd Bros., Cincinnati, O.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from September 7, 1889, to September 13, 1889.

With the approval of the Secretary of War, the leave of absence granted Major John H. Janeway, Surgeon, in S. O. 52, Div. of the Pacific, July 29, 1889, is extended two months. Par. 1, S. O. 206, A. G. O., September 5, 1889.

First Lieut. Freeman V. Walker, Asst. Surgeon, leave of absence on surgeon's certificate of disability granted in S. O. 92, April 20, 1889, is extended one month on surgeon's certificate of disability, by direction of the acting Secretary of War. S. O. 211, A. G. O., September 11, 1889.

CORRIGENDUM.

In THE JOURNAL of September 7, 1889, page 348, eighth line from top of second column, for "Dr. E. P. Hurd" read Dr. Henry M. Hurd.